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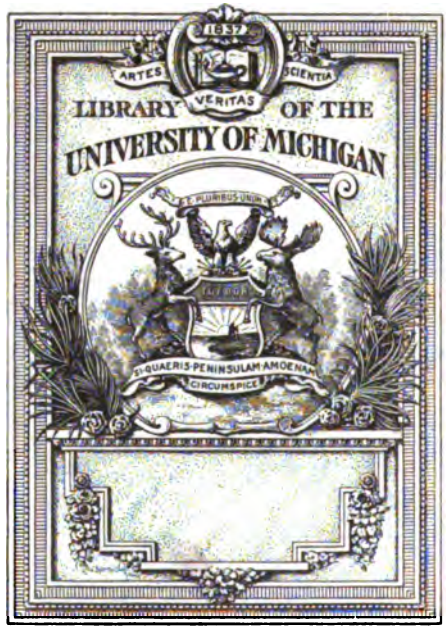
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COMMERCE, MANUFACTURES, ETC.

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PUBLICATIONS OF THE BUREAU OF FOREIGN COMMERCE.*

The publications of the Bureau of Foreign Commerce, Department of State, are:

I.—COMMERCIAL RELATIONS, being the annual reports of consular officers on the commerce, industries, navigation, etc., of their districts.

II.—CONSULAR REPORTS, issued monthly, and containing miscellaneous reports from diplomatic and consular officers.

III.—ADVANCE SHEETS, CONSULAR REPORTS, issued daily, except Sundays and legal holidays, for the convenience of the newspaper press, commercial and manufacturing organizations, etc.

IV.—EXPORTS DECLARED FOR THE UNITED STATES, issued quarterly, and containing the declared values of exports from the various consular districts to the United States for the preceding three months.

V.—SPECIAL CONSULAR REPORTS, containing series of reports from consular officers on particular subjects, made in pursuance to instructions from the Department.

Following are the special publications issued by the Bureau prior to 1890:

Labor in Europe, 1878, one volume; Labor in Foreign Countries, 1884, three volumes; Commerce of the World and the Share of the United States Therein, 1879; Commerce of the World and the Share of the United States Therein, 1880–81; Declared Exports for the United States, First and Second Quarters, 1883; Declared Exports for the United States, Third and Fourth Quarters, 1883; Cholera in Europe in 1884, 1885; Trade Guilds of Europe, 1885; The Licorice Plant, 1885; Forestry in Europe, 1887; Emigration and Immigration, 1885–86 (a portion of this work was published as CONSULAR REPORTS No. 76, for the month of April, 1887); Rice Pounding in Europe, 1887; Sugar of Milk, 1887; Wool Scouring in Belgium, 1887; Cattle and Dairy Farming in Foreign Countries, 1888 (issued first in one volume, afterwards in two volumes); Technical Education in Europe, 1888; Tariffs of Central America and the British West Indies, 1890.

The editions of all these publications except Tariffs in Central America, etc., are exhausted and the Department is, therefore, unable to supply copies.

In 1890, the Department decided to publish reports on special subjects in separate form, to be entitled SPECIAL CONSULAR REPORTS. There are now the following SPECIAL CONSULAR REPORTS:

Vol. 1 (1890).—Cotton Textiles in Foreign Countries, Files in Spanish America, Carpet Manufacture in Foreign Countries, Malt and Beer in Spanish America, and Fruit Culture in Foreign Countries.

Vol. 2 (1890 and 1891).—Refrigerators and Food Preservation in Foreign Countries, European Emigration, Olive Culture in the Alpes Maritimes, and Beet-Sugar Industry and Flax Cultivation in Foreign Countries.

Vol. 3 (1891).—Streets and Highways in Foreign Countries. (New edition, 1897.)

Vol. 4 (1891).—Port Regulations in Foreign Countries.

Vol. 5 (1891).—Canals and Irrigation in Foreign Countries. (New edition, 1898.)

Vol. 6 (1891 and 1892).—Coal and Coal Consumption in Spanish America, Gas in Foreign Countries, and India Rubber.

Vol. 7 (1892).—The Stave Trade in Foreign Countries and Tariffs of Foreign Countries.

Vol. 8 (1892).—Fire and Building Regulations in Foreign Countries.

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* Formerly Bureau of Statistics. Name changed to Bureau of Foreign Commerce by order of the Secretary of State, July 1, 1897.

Vol. 9 (1892 and 1893).—Australian Sheep and Wool and Vagrancy and Public Charities in Foreign Countries.

Vol. 10 (1894).—Lead and Zinc Mining in Foreign Countries and Extension of Markets for American Flour. (New edition, 1897.)

Vol. 11 (1894).—American Lumber in Foreign Markets. (New edition, 1897.)

Vol. 12 (1895).—Highways of Commerce. (New edition, 1899.)

Vol. 13 (1896 and 1897).—Money and Prices in Foreign Countries

Vol. 14 (1898).—The Drug Trade in Foreign Countries.

Vol. 15 (1898).—Part I. Soap Trade in Foreign Countries; Screws, Nuts, and Bolts in Foreign Countries; Argols in Europe, Rabbits and Rabbit Furs in Europe, and Cultivation of Ramie in Foreign Countries. Part II. Sericulture and Silk Reeling and Cultivation of the English Walnut.

Vol. 16 (1899).—Tariffs of Foreign Countries. Part I. Europe. Part II. America. Part III. Asia, Africa, Australasia, and Polynesia. (Part III not yet published.)

Vol. 17 (1899).—Disposal of Sewage and Garbage in Foreign Countries; Foreign Trade in Coal Tar and By-Products.

Vol. 18 (1900).—Merchant Marine of Foreign Countries.

Of these SPECIAL CONSULAR REPORTS, Australian Sheep and Wool, Cotton Textiles in Foreign Countries; Disposal of Sewage, etc.; Files in Spanish America, Fire and Building Regulations, Gas in Foreign Countries, India Rubber, Lead and Zinc Mining, Malt and Beer in Spanish America, Port Regulations, Refrigerators and Food Preservation, Soap, etc.; Sericulture, etc.; Vagrancy, etc., are exhausted, and no copies can be supplied by the Department.

Of the monthly CONSULAR REPORTS, many numbers are exhausted or so reduced that the Department is unable to accede to requests for copies. Of the publications of the Bureau available for distribution, copies are mailed to applicants without charge. In view of the scarcity of certain numbers, the Bureau will be grateful for the return of any copies of the monthly or special reports which recipients do not care to retain. Upon notification of willingness to return such copies, the Department will forward franking labels to be used in lieu of postage in the United States, Canada, the Hawaiian Islands, and Mexico.

Persons receiving CONSULAR REPORTS regularly, who change their addresses, should give the old as well as the new address in notifying the Bureau of the fact.

In order to prevent confusion with other Department bureaus, all communications relating to consular reports should be carefully addressed, "Chief, Bureau of Foreign Commerce, Department of State, Washington, U. S. A."

VALUES OF FOREIGN COINS AND CURRENCIES.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

The fact that the market exchange value of foreign coins differs in many instances from that given by the United States Treasury has been repeatedly called to the attention of the Bureau of Foreign Commerce. An explanation of the basis of the quarterly valuations was asked from the United States Director of the Mint, and under date of February 7, 1898, Mr. R. E. Preston makes the following statement:

"When a country has the single gold standard, the value of its standard coins is estimated to be that of the number of grains fine of gold in them, 480 grains being reckoned equivalent to $20.67 in United States gold, and a smaller number of grains in proportion. When a country has the double standard, but keeps its full legal-tender silver coins at par with gold, the coins of both gold and silver are calculated on the basis of the gold value.

"The value of the standard coins of countries with the single silver standard is calculated to be that of the average market value of the pure metal they contained during the three months preceding the date of the proclamation of their value in United States gold by the Secretary of the Treasury. The value of the gold coins of silver-standard countries is calculated at that of the pure gold they contain, just as if they had the single gold standard.

"These valuations are used in estimating the values of all foreign merchandise exported to the United States. The value of the Indian rupee, although calculated according to law at the value of the pure metal contained therein, has a commercial value above the value of the silver bullion; consequently the value for customs purposes is determined in each case by the consular certificates attached to the invoice of exports from that country to the United States."

The following statements, running from January 1, 1874, to April 1, 1900, have been prepared to assist in computing the values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. When it is taken into account

that the ruble of Russia, for instance, fluctuated from 77.17 cents in 1874 to 37.4 cents in April, 1897, such computations are wholly misleading. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1890, and in the quarterly valuations thereafter.

To meet typographical requirements, the quotations for the years 1876, 1877, 1879, 1881, 1882, and 1891–95 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz: (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

A.—*Countries with fixed currencies.*

The following official (United States Treasury) valuations of foreign coins do not include "rates of exchange."

Countries.	Standard.	Monetary unit.	Value in U.S. gold.	Coins.
Argentine Republic*.	Gold and silver..	Peso.....	$0.96,5	Gold—Argentine ($4.82,4) and ½ Argentine; silver—peso and divisions.
Austria-Hungary†.....	Gold	Crown.....	.20,3	Gold—20 crowns ($4.05,2) and 10 crowns.
Belgium	Gold and silver..	Franc.....	.19,3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil.....	Gold	Milreis.....	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British North America (except Newfoundland).	.....do	Dollar.....	1.00	
British Honduras.....	.....do	.....do	1.00	
Chile.....	.....do	Peso.....	.36,5	Gold—escudo ($1.25), doubloon ($3.65), and condor ($7.30); silver—peso and divisions.
Costa Rica.....	.....do	Colon.....	.46,5	Gold—2, 5, 10, and 20 colons; silver—5, 10, 25, and 50 centisimos.
Cuba	Gold and silver..	.....do	.92,6	Gold—doubloon ($5.01,7); silver—peso (60 cents).
Denmark.....	Gold	Crown.....	.26,8	Gold—10 and 20 crowns.
Egypt.....	.....do	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland.....	.....do	Mark.....	.19,3	Gold—10 and 20 marks ($1.93 and $3.85,9).
France	Gold and silver..	Franc.....	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany	Gold	Mark.....	.23,8	Gold—5, 10, and 20 marks.
Great Britain.....	.....do	Pound sterling...	4.86,6½	Gold—sovereign (pound sterling) and half sovereign.
Greece.....	Gold and silver..	Drachma.....	.19,3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti	.....do	Gourde.....	.96,5	Silver—gourde.
Italy.....	.....do	Lira	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Japan‡.....	Gold	Yen.....	.49,8	Gold—1, 2, 5, 10, and 20 yen.
Liberia	.....do	Dollar.....	1.00	
Netherlands§.....	Gold and silver..	Florin	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Newfoundland	Gold	Dollar.....	1.01,4	Gold—$2 ($2.02,7).
Portugal.....	.....do	Milreis.....	1.08	Gold—1, 2, 5, and 10 milreis.
Russia‖.....	.....do	Ruble.....	.51,5	Gold—imperial ($7.718) and ½ imperial ($3.80); silver—¼, ½, and 1 ruble.
Spain.....	Gold and silver..	Peseta.....	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway.	Gold	Crown.....	.26,8	Gold—10 and 20 crowns.
Switzerland	Gold and silver..	Franc.....	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey	Gold	Piaster.....	.04,4	Gold—25, 50, 100, 200, and 500 piasters.
Uruguay	Gold	Peso.....	1.03,4	Gold—peso: silver—peso and divisions.
Venezuela.....	Gold and silver..	Bolivar.....	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

* In 1874 and 1875, the gold standard prevailed.

† The gold standard was adopted October 1, 1892. (See CONSULAR REPORTS No. 147, p. 623.) Values are still, however, frequently expressed in the florin or gulden, which is worth 2 crowns or 40.6 cents.

‡ Gold standard adopted October 1, 1897. (See CONSULAR REPORTS No. 201, p. 259.)

§ See note to table of fluctuating currencies.

‖ For an account of the adoption of the gold standard, see Review of the World's Commerce, 1896–97, p. 254.

B.—*Countries with fluctuating currencies, 1874–1890.*

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1875.	1878.	1880.	1883.	1884.
Austria-Hungary*	Silver	Florin	$0.47,6	$0.45,3	$0.45,3	$0.41,3	$0.40,1	$0.39,8
Bolivia	do	Dollar until 1890; boliviano thereafter.	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Central America	do	Peso	.96,5	.91,8	.91,8	.83,6		
China	Silver	Haikwan tael	1.61	1.61				
Colombia	do	Peso	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Ecuador	do	do	.96,5	.91,8	.91,8	.83,6	.81,2	.80,6
Egypt†	Gold	Pound (100 piasters).			4.97,4	4.97,4	4.90	4.90
India	Silver	Rupee	.45,8	.43,6	.43,6	.39,7	.38,6	.38,3
Japan	Gold	Yen	.99,7	.99,7	.99,7	.99,7		
	Silver						.87,6	.86,9
Mexico	do	Dollar	1.04,7½	.99,8	.99,8	.90,9	.88,2	.87,5
Netherlands‡	Gold and Silver.	Florin	.40,5	.38,5	.38,5	.40,2		
Peru	Silver	Sol	.92,5	.91,8	.91,8	.83,6	.81,2	.80,6
Russia	do	Ruble	.77,17	.73,4	.73,4	.66,9	.65	.64,5
Tripoli	do	Mahbub of 20 piasters.	.87,09	.82,9	.82,9	.74,8	.73,3	.72,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1885.	1886.	1887.	1888.	1889.	1890.
Austria-Hungary*	Silver	Florin	$0.39,3	$0.37,1	$0.35,9	$0.34,5	$0.33,6	$0.42
Bolivia	do	Dollar until 1880; boliviano thereafter.	.79,5	.75,1	.72,7	.69,9	.68	.85
Central America	do	Peso				.69,9	.68	.85
Colombia	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Ecuador	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Egypt†	Gold	Pound (100 piasters).	4.90	4.90	4.94,3	4.94,3	4.94,3	4.94,3
India	Silver	Rupee	.37,8	.35,7	.34,6	.32,2	.32,3	.40,4
Japan	Gold	Yen			.99,7	.99,7	.99,7	.99,7
	Silver		.85,8	.81	.78,4	.75,3	.73,4	.91,7
Mexico	do	Dollar	.86,4	.81,6	.79	.75,9	.73,9	.92,3
Peru	Silver	Sol	.79,5	.75,1	.72,7	.69,9	.68	.85
Russia	do	Ruble	.63,6	.60,1	.58,2	.55,9	.54,4	.68
Tripoli	do	Mahbub of 20 piasters.	.71,7	.67,7	.65,6	.63	.61,4	.76,7

* The silver standard prevailed in Austria-Hungary up to 1892. The law of August 2 of that year (see CONSULAR REPORTS No. 147, p. 623) established the gold standard.

† The Egyptian pound became fixed in value at $4.94,3 in 1887.

‡ The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

C.—*Quarterly valuations of fluctuating currencies.*

Countries.	Monetary unit.	1897.				1898.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Bolivia	Silver boliviano.	$0.47,4	$0.46,8	$0.44,3	$0.41,2	$0.42,4	$0.40,9	$0.41,8	$0.43,6
Central America.	Silver peso	.47,4	.46,5	.44,3	.41,2	.41,4	.40,9	.41,8	.43,6
China	Amoy tael	.76,7	.75,7	.71,7	.66,4	.68,5	.66,2	.67,6	.70,6
	Canton tael	.76,5	.75,5	.71,5	.66,4	.68,3	.66	.67,4	.70,4
	Chefoo tael	.73,3	.72,4	.68,6	.63,7	.65,5	.63,3	.64,6	.67,5
	Chinkiang tael	.74,9	.73,9	.70	.65,1	.66,9	.64,6	.66	.69
	Fuchau tael	.70,9	.70	.66,3	.61,6	.63,4	.61,2	.62,5	.65,3
	Haikwan tael	.78	.77	.73,1	.67,8	.69,7	.67,3	.68,8	.71,8
	Hankau tael	.71,7	.70,8	.67,1	.62,3	.64,1	.61,9	.63,2	.66
	Ningpo tael	.73,7	.72,8	.68,9	.64	.64,3	.63	.65	.67,9
	Niuchwang tael.	.71,9	.71	.67,2	.62,5	.65,9	.62	.63,4	.66,2
	Shanghai tael	.70	.69,1	.65,5	.60,8	.62,6	.60,4	.61,7	.64,5
	Swatow tael	.70,8	.69,9	.66,2	.61,5	.63,3	.61,1	.62,4	.65,2
	Takao tael	.77,2	.76,2	.72,2	.67	.66	.66,6	.68	.71
	Tientsin tael	.74,3	.73,4	.69,5	.64,6	.66,4	.64,1	.65,5	.68,4
Colombia	Silver peso	.47,4	.46,8	.44,3	.41,2	.42,4	.40,9	.41,8	.43,6
Ecuador	do.	.47,4	.46,8	.44,3	.41,2	.42,4	.40,9	.41,8	.43,6
India*	Silver rupee	.22,5	.22,2	.21,1	.19,6	.20,1	.19,1	.19,9	.20,7
Japan	Silver yen	.51,1	.50,5						
Mexico	Silver dollar	.51,5	.50,8	.48,2	.44,6	.46	.44,4	.45,4	.47,4
Persia	Silver kran	.08,7	.08,6	.08,2	.07,6	.07,8	.07,5	.07,7	.08
Peru	Silver sol	.47,4	.46,8	.44,3	.41,2	.42,4	.40,9	.41,8	.43,6
Russia	Silver ruble	.37,9	.37,4						

Countries.	Monetary unit.	1899.				1900.	
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.
Bolivia	Silver boliviano.	$0.43,9	$0.43,4	$0.44,3	$0.43,6	$0.42,7	$0.43,6
Central America	Silver peso	.43,9	.43,4	.44,3	.43,6	.42,7	.43,6
China	Amoy tael	.71	.70,2	.71,6	.70,5	.69,1	.70,5
	Canton tael	.70,8	.70	.71,4	.70,3	.68,9	.70,3
	Chefoo tael	.67,9	.67,2	.68,4	.67,4	.66,1	.67,4
	Chinkiang tael	.69,3	.68,6	.69,9	.68,9	.67,5	.68,8
	Fuchau tael	.65,6	.65	.66,2	.65,2	.64	.65,2
	Haikwan tael	.72,2	.71,4	.72,8	.71,8	.70,3	.71,7
	Hankau tael	.66,4	.65,7	.67	.66	.64,7	.65,9
	Ningpo tael	.68,2	.67,5	.68,8	.67,8	.66,5	.67,7
	Niuchwang tael.	.66,5	.65,9	.67,1	.66,1	.64,8	.66,1
	Shanghai tael	.64,8	.64,1	.65,4	.64,4	.63,1	.64,4
	Swatow tael	.65,5	.64,9	.66,1	.65,1	.63,9	.65,1
	Takao tael	.71,4	.70,7	.72	.71	.69,6	.70,9
	Tientsin tael	.68,8	.68	.69,4	.68,3	.67	.68,3
Colombia	Silver peso	.43,9	.43,4	.44,3	.43,6	.42,7	.43,6
Ecuador	do.	.43,9	.43,4	.44,3	.43,6	.42,7	.43,6
India*	Silver rupee	.20,8	.20,6	.21	.20,7	.20,3	.20,7
Mexico	Silver dollar	.47,7	.47,2	.48,1	.47,4	.46,4	.47,3
Persia	Silver kran	.08,1	.08	.08,2	.08	.07,9	.08
Peru	Silver sol	.43,9	.43,4	.44,3	.43,6	.42,7	.43,6

*The commercial value of the rupee to be determined by consular certificate.

FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalents.
Almude	Portugal	4.422 gallons.
Ardeb	Egypt	7.6907 bushels.
Are	Metric	0.02471 acre.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentine Republic	25.3175 pounds.
Do	Brazil	32.38 pounds.
Do	Cuba	25.3664 pounds.
Do	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do	Venezuela	25.4024 pounds
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons.
Arshine	Russia	28 inches.
Arshine (square)	do	5.44 square feet
Artel	Morocco	1.12 pounds.
Baril	Argentine Republic and Mexico	20.0787 gallons.
Barrel	Malta (customs)	11.4 gallons.
Do	Spain (raisins)	100 pounds.
Berkovets	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bouw	Sumatra	7,096.5 square meters.
Bu	Japan	0.1 inch.
Butt (wine)	Spain	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do	India (Madras)	500 pounds.
Cantar	Morocco	113 pounds.
Do	Syria (Damascus)	575 pounds.
Do	Turkey	124.7036 pounds.
Cantaro (cantar)	Malta	175 pounds.
Carga	Mexico and Salvador	300 pounds.
Catty	China	1.333⅓ (1⅓) pounds.
Do*	Japan	1.31 pounds.
Do	Java, Siam, and Malacca	1.35 pounds.
Do	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do	Darmstadt	110.24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do	Nuremberg	112.43 pounds.
Do	Prussia	113.44 pounds.
Do	Sweden	93.7 pounds.
Do	Vienna	123.5 pounds.
Do	Zollverein	110.24 pounds.
Do	Double or metric.	220.46 pounds.
Chih	China	14 inches.

*More frequently called "kin." Among merchants in the treaty ports it equals 1.33⅓ pounds avoirdupois.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Coyan	Sarawak	3,098 pounds.
Do	Siam (Koyan)	2,667 pounds.
Cuadra	Argentine Republic	4.2 acres.
Do	Paraguay	78.9 yards.
Do	Paraguay (square)	8.077 square feet.
Do	Uruguay	Nearly 2 acres.
Cubic meter	Metric	35.3 cubic feet.
Cwt. (hundredweight)	British	112 pounds.
Dessiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	Half ounce.
Egyptian weights and measures	(*See* CONSULAR REPORTS No. 144.)	
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.
Do	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail (raisins)	Spain	50 pounds.
Frasco	Argentine Republic	2.5096 quarts.
Do	Mexico	2.5 quarts.
Fuder	Luxemburg	264.17 gallons.
Garnice	Russian Poland	0.88 gallon.
Gram	Metric	15.432 grains.
Hectare	do	2.471 acres.
Hectoliter:		
Dry	do	2.838 bushels.
Liquid	do	26.417 gallons.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	6 feet.
Kilogram (kilo)	Metric	2.2046 pounds.
Kilometer	do	0.621376 mile.
Klafter	Russia	216 cubic feet.
Koku	Japan	4.9629 bushels.
Korree	Russia	3.5 bushels.
Kwan	Japan	8.28 pounds.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4 480 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	111⅛ bushels.
Do	Spain (salt)	4,760 pounds.
League (land)	Paraguay	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Castilian	7,100 grains (troy).
Do	Argentine Republic	1.0127 pounds.
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01465 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.
Liter	Metric	1.0567 quarts.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1⅞ acres.
Do	Nicaragua and Salvador	1.727 acres.
Marc	Bolivia	0.507 pound.
Maund	India	82⅔ pounds.
Meter	Metric	39.37 inches.
Mil	Denmark	4.68 miles.
Do	Denmark (geographical)	4.61 miles.
Milla	Nicaragua and Honduras	1.1493 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.84 pounds.
Do	Hungary	3.0817 pounds.
Do	Turkey	2.85418 pounds.
Do	Hungary and Wallachia	2.5 pints.
Pic	Egypt	21¼ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133⅓ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands (hemp)	139.45 pounds.
Do	Philippine Islands (sugar)	140 pounds.
Pie	Argentine Republic	0.9478 foot.
Do	Castile	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentine Republic	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile, Chile, Mexico, and Peru	101.61 pounds.
Do	Greece	123.2 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Do	Metric	220.46 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5¾ pounds.
Sagen	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	0.02451 acres.
Seer	India	1 pound 13 ounces.
Shaku	Japan	11.9305 inches.
Sho	do	1.6 quarts.
Standard (St. Petersburg)	Lumber measure	165 cubic feet.
Stone	British	14 pounds.
Suerte	Uruguay	2,700 cuadras (see cuadra).
Sun	Japan	1.193 inches.
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.25 acre.
To	do	2 pecks.
Ton	Space measure	40 cubic feet.
Tonde (cereals)	Denmark	3.94783 bushels.
Tondeland	do	1.36 acres.
Tsubo	Japan	6 feet square.
Tsun	China	1.41 inches.
Tunna	Sweden	4.5 bushels.
Tunnland	do	1.22 acres.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Vara	Argentine Republic	34.1208 inches.
Do	Castile	0.914117 yard.
Do	Central America	32.87 inches.
Do	Chile and Peru	33.367 inches.
Do	Cuba	33.384 inches.
Do	Curaçao	33.375 inches.
Do	Mexico	33 inches.
Do	Paraguay	34 inches.
Do	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.663 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
Centigram ($\frac{1}{100}$ gram) equals 0.1543 grain.
Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
Gram equals 15.432 grains.
Decagram (10 grams) equals 0.3527 ounce.
Hectogram (100 grams) equals 3.5274 ounces.
Kilogram (1,000 grams) equals 2.2046 pounds.
Myriagram (10,000 grams) equals 22.046 pounds.
Quintal (100,000 grams) equals 220.46 pounds.
Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measures.

Milliliter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
Liter equals 0.908 quart.
Decaliter (10 liters) equals 9.08 quarts.
Hectoliter (100 liters) equals 2.838 bushels.
Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measures.

Milliliter ($\frac{1}{1000}$ liter) equals 0.0388 fluid ounce.
Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
Liter equals 1.0567 quarts.
Decaliter (10 liters) equals 2.6418 gallons.
Hectoliter (100 liters) equals 26.417 gallons.
Kiloliter (1,000 liters) equals 264.18 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.
Meter equals 39.37 inches.

Decameter (10 meters) equals 393.7 inches.
Hectometer (100 meters) equals 328 feet 1 inch.
Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
Are (100 square meters) equals 119.6 square yards.
Hectare (10,000 square meters) equals 2.471 acres.

CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

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MINERALS AND MINING IN ECUADOR.

The following data have been furnished me by Mr. C. Van Isschot, a French metallurgist, long a resident of this country, who is regarded as an authority.

As early as 1549, the Spaniards began to work the rich mineral veins found near Zaruma, in the province of Del Oro, and they are to-day worked by an American company. The placer mines near the rivers Santiago, Uimbi, and Cachabi, in the province of Esmeraldas, were also early exploited; but these were all abandoned when slavery was abolished. The most attractive field thus far discovered is that of Zaruma and the provinces southeast of Guayas.

GOLD ORES.

A report on the Zaruma district in 1876 by Dr. Wolf caused the formation of several companies, but none of them survived. Afterward the South American Development Company, of New York, was formed and is now actively and successfully mining. The same can be said of the National, a small native company. The ore found carries 1 to 4 ounces of pure gold per ton, and the vein varies from 1 to 1.5 meters (39.37 to 59.06 inches) in width, occasionally running much wider. It is incased in porphyritic rock covering an area of about 100 square kilometers (38.61 square miles). The upper or surface veins carry "free gold" to a depth of 20 to 30 meters (65.6 to 98.4 feet). Below this depth it is found generally in combination with copper and iron pyrites; in some cases galena and zinc blendes occur, with specks of pure copper. The yield of these ores is three-fourths of an ounce to 1 ounce; but in some instances rich pockets have yielded 30 ounces, and in one case 300 ounces. After smelting, the product shows 73.04 per cent of gold and 26.06 per cent of

silver. Motive power for all purposes is afforded by the Amarillo and Calera rivers, more properly mountain rapids. Timber is found in ample quantity, but transportation is costly. Peons familiar with the business can be employed at from 60 to 80 cents per day in United States gold; native miners, at $1 to $1.20; foreigners, by contract. The climate is trying near the streams, even at an altitude of 2,000 feet; but the higher ranges are healthy. Temperature is from 14° to 25° C., according to elevation.

The district is about 60 miles from the coast and is reached by very bad roads, or mountain trails, which make transportation slow, difficult, and expensive, especially during the rainy season, when the road is a mere bog. This is the most serious drawback, work being frequently retarded thereby.

The mining in Zaruma district is principally by drifts, and the mines are self-draining. There are also placer mines in the district, but they have received little attention.

PLACER MINES OF ESMERALDAS.

These were worked under the Spaniards by slaves, afterwards abandoned, and, like Zaruma, are at present in the hands of an American company.

Santiago.—The deposit varies from 2 to 20 meters (6.65 feet to 66.5 feet), with differing yield. The rocks are porphyry, diorites, syenites, and granite, easily decomposed. Near the Playa de Oro mine is the Angostura, with extensive deposits of alluvial strata, but not now worked.

Uimbi River.—This district was about worked out by the Spaniards. The negroes, however, still find a little gold here.

Cachabi River.—This was for a few years worked by a New York company; now, only by negroes.

PLATINUM.

Platinum is found in the washings of Esmeraldas in variable quantities.

Analysis of Esmeraldas gold.

River.	Gold.	Silver.
	Per ct.	*Per ct.*
Cayapas	87.39	12.61
Sapayito	85.71	14.29
Santiago	86.98	13.02
Uimbi	86.88	13.12
Cachabi	85.68	14.32
Bagotá	86.73	13.27

Platinum analysis.

	Per cent.
Platinum	84.95
Palladium, rhodium, iridium	4.64
Iron	6.94
Gold	1.12
Copper and silver	Traces.
Osmio-iridium	1.54
Sand	0.81

SILVER.

There is little data regarding this metal. If any mines were worked during the period of Spanish occupation, their locality has been lost. The ores exist in porphyritic formations, but they are hard to trace by reason of being either abandoned or buried; a few are known.

Pillzhum.—Near the city of Azogues are numerous veins running from south to north and east to west at an altitude of 4,500 meters (2.8 miles), from 0.6 to 1.2 meters (2 to 4 feet) in width.

The Matrix.—This is a silicious rock. The silver ore is found in small quantities distributed through the mass with iron pyrites. The dump gives 1 to 2 kilograms—say, 33 to 66 ounces—per ton. A shipment of 77 tons made in 1893–94 from the Constancia mine to Germany averaged 310 ounces to the ton. About 500 tons on the dump showed a yield of 99 ounces to the ton; some samples yielded as much as 1,253 ounces of silver and 10 ounces of gold. This property is owned by a native company, which lacks both means and inclination for development. Water and fuel are near and abundant. The ore can be easily treated by lixiviation, and the cost would not exceed 25 cents per ounce.

Zhuya, Malal, and Ger.—These mines, in the province of Cañar, are either drowned or buried.

COPPER.

Deposits are found in the province of Loja, at Catacocha; but bad roads and remoteness preclude development. Others have been recently discovered in the province of Azuay, 35 miles from the coast, at an altitude of about 5,000 feet. These deposits are believed to possess great value and are now being developed. All conditions are favorable as regards location, fuel, water, labor, etc. Analyses at the Virginia mine are very flattering: Copper, 19 to 21 per cent; silver, 41 to 48 ounces to the ton; gold, $1.10 to $1.50 to the ton. It is believed that this is the most valuable mineral deposit in Ecuador and the owners are sanguine of realizing for themselves and future associates a fortune from their find. The copper mines of Peru in the Cerro de Pasco district, 320 miles from the coast and 100 miles

from the Oroya Railroad, are paying superb profits despite the enormous cost involved in transportation. The Virginia is but 35 miles from a port.

LEAD.

Only a few veins of silver galena are known, viz, in Santa Cruz, near the town of Malacatos, in the province of Loja. Samples show: Lead, 56 per cent; silver, 74 ounces to the ton. Remoteness precludes development of this property at present. The Virginia copper mine carries galena in rich and paying quantities—128 to 192 ounces of silver to the ton and 55 to 80 per cent of lead.

QUICKSILVER.

No mines are known to exist; but mercury in a metallic state has been found in various localities, even in the suburbs of Guayaquil on the hill Santa Ana. M. Van Isschot found it in Los Rios; on the banks of the Collay, in the Eastern Cordillera; on the Esmeraldas; and in the cultivated valleys of Cuenca and Azogues; but the source of the formation is unknown. The mercury is in too minute quantities to be workable, although found in a free state.

PETROLEUM.

Petroleum was first noticed in the last century by Velasco, a priest, who found the natives using it after its reduction to pitch. Deposits are found on the shores of the Pacific. In many places, in strata of schist, signs of bituminous substances are visible. The field, which seems quite rich, stretches horizontally and is of variable thickness. At a depth of 3 or 4 feet the earth is found of dark brown gray, like a sponge, saturated with salt water and petroleum.

COAL.

Anthracite is found in the crystalline schist of Penipe, near Riobamba; lignite, in the neighborhood of Azogues, Loja, and Malacatos in strata of tertiary formation. All are in the interior, and valueless until reached by railroads.

OTHER MINERALS.

Salt is obtained by the natives for domestic consumption, and rich strata of sulphur mixed with sand are also found. In 1874 a well was sunk by order of Garcia Moreno, then President, but was not driven to a sufficient depth to show results. The Government has reserved for national benefit the parish of Santa Elena and will invite bidders. Gypsum is found in the same formation.

PRODUCTION OF GOLD.

Despite her ample deposits, Ecuador is at the bottom of the list of South American republics in gold production, largely on account of

lack of roads. The Engineering and Mining Journal places the amount produced in 1897 and 1898 at only 199.9 kilograms (440.7 pounds); but this is erroneous, as a portion is used locally and more leaves the Republic by way of Colombia. From June to October, 1899, the South American Development Company exported about $36,000 worth; they are now shipping about $7,500 per month. It is believed that this product will soon be doubled or trebled.

MINING LAWS.

Under the liberal act of 1892, properties can be acquired by natives or foreigners by simple "denouncement" (preemption) before the local authorities. Claims can cover 600 meters (1,968½ feet) in length by 200 meters (656 feet) in width; for placer mines and coal fields, 50,000 square meters (12,355 acres). Twenty claims can be preempted by the same person. Possession is indefinite as to time if a $25 annual tax is paid on claims worked and $8 on those not worked. Machinery and all mining supplies are exempt from customs duties, nor are any fiscal duties charged on concessions or sales.

The Zaruma district is the most attractive gold field, and the next is Esmeraldas. The deposits of the Napo and the eastern region will not invite development until more accessible. The region north of Zaruma is believed to be rich.

In addition to the deposits of silver previously mentioned, the cordilleras of Cañar are known to possess veins which can be easily exploited, being near the coast. They have been prospected to a slight extent by M. Van Isschot.

The petroleum fields also deserve attention, but capital and careful investigation are necessary. As before stated, the deposits run back from the ocean many miles.

The copper deposits recently discovered promise great results, and confidence is felt that time and labor will make them very valuable. They seem to me worthy of the attention of American capitalists.

The great drawbacks to mining in this and other South American countries are remoteness from world centers, distance from avenues of communications, bad roads, lack of capital, unscientific effort, lack of experience, and extravagant management. Not the least serious obstacle is the fact that the public has been the victim of promoters. Better times and profitable investments are almost certain, but they must come from abroad. Nearly all enterprises in every South American country are conducted by Europeans or Americans.

PERR M. DE LEON,
Consul-General.

GUAYAQUIL, *January 22, 1900.*

SHOES IN BRAZIL.

The following extracts are from a letter from Consul Furniss, of Bahia, dated January 12, 1900, to a New York trade journal:*

No business is being done with the United States either in leather or shoes in this part of Brazil. What is imported comes from England, France, and Germany. I can not find that any attempt has been made by our firms to enter this market with either shoes or leather, though most of the hides shipped from this section are sold in the United States. For the year ended December 31, 1899, the declared value of hides shipped to the United States was $440,885.86, and of goat and other skins $389,919.64, while so far this season the amount has much exceeded that for the same period last year.

In regard to the possibilities for the sale of American shoes and leather in this district, I would say that they depend entirely upon the efforts our firms will make for the business. If they wish the trade and will give the same terms as European houses—*i. e.*, sixty and ninety day sight drafts, the goods to be delivered against acceptance of the drafts—there is no reason why they should not control a large portion of the traffic.

I think that decidedly the best way to introduce our shoes in Brazil would be for our manufacturers to establish retail stores at Para, Pernambuco, Bahia, Rio de Janeiro, Santos, and São Paulo. With a good grade of shoes and without middlemen, there is no doubt that such stores would be a success from the start. American push and enterprise, with the superior cut, make, and lasting qualities of our shoes, would soon make these the only foreign ones handled.

It would be next to useless to try to sell to stores already in existence, as they are extremely slow to break away from good connections.

As to styles, the better grades of men's shoes sold here resemble our own, except that there is a more decided preference for the narrow, pointed toe. They are sold in lace, congress, and button, with preference for lace; and are high and low cut, black, tan, and patent leathers. They are numbered in both metric and English systems, the good grades selling for from 35 to 40 milreis ($5.25 to $6), the milreis to-day being worth a fraction above 15 cents in United States money.

*Copy of letter has been sent the editor.

In women's shoes, there is also a decided preference for the narrow, pointed toes, and all shoes have the high French heel, there being a liking for that heel which uses a part of the sole to curve up, instead of being cut perpendicular to the sole, as is done with us. They are made in lace and button, high and low cut, the low-cut ones being more like our high-heeled slippers than our low-cut ties. They are mostly of black leather, with a few tans and patent leathers.

Very few children's shoes are imported, the native-made ones being considered good enough for children, and, on account of their coarseness, doubtless lasting longer than would the imported articles.

The following is the duty on shoes, etc.: Buskins of leather, skins, or of cotton, wool, or linen texture, up to 22 centimeters (8.6 inches) in length, 3 milreis (45 cents) per pair; more than 22 centimeters in length, 7 milreis ($1.05); if made of any silk texture or any mixture of silk, 6 milreis (90 cents) up to 22 centimeters (8.6 inches) and 14 milreis ($2.10) if more than 22 centimeters in length.

Gaiters of leather or skins or of cotton, wool, or linen texture pay 1.200 milreis (18 cents) up to 22 centimeters (8.6 inches) in length, and above 22 centimeters 3.200 milreis (48 cents); but if made from silk or any mixture of silk texture, 3 milreis (45 cents) up to 22 centimeters and 7 milreis ($1.05) if more than 22 centimeters. In addition to the above, commencing January 1, 1900, 15 per cent of the duty is payable in gold and the other 85 per cent in paper. Since paper has to-day a depreciation of 70.95 per cent, the actual paper duty is considerably in excess of the above and is always fluctuating.

AGRICULTURAL IMPLEMENTS IN EASTERN BRAZIL.

Consul Furniss, of Bahia, on January 17, 1900, writes to an Illinois company* as follows:

Very few agricultural implements are used in this district.

Some time ago, I made a trip to the most fertile section of this consular district, where coffee, sugar cane, tobacco, etc., are raised in great quantities, and I was surprised to note the entire absence of modern agricultural implements. The ground is prepared for planting by turning it up with a spade, but more often with a crude hoe resembling our grub hoe or with a pick where the soil is particularly hard. A crop once planted is not bothered much by cultivation, the coffee being full of weeds and other vegetation, a heavy growth often obscuring the cane. The little cultivation that is done (more particularly with tobacco) is effected with a broad hoe,

* To which copy of the letter has been forwarded.

of the type long ago used in the cotton fields of the south of the United States.

In many parts a plow is unknown; in fact, I can find but one district that ever attempted its use, and that was the sugar-cane section, under the management of an English company, and the plows brought out have been allowed to rot and rust, because the natives could not be induced to use them.

Such farm implements as seeders, harrows, planters, drills, cultivators, hay loaders, corn huskers, and the like are entirely unknown here. Indeed, there could be no use for many of these things, because little in the way of grass or vegetables is raised, the supply being imported—the corn and hay from Argentina, the potatoes from Portugal and possessions and Germany, the beans from southern Brazil, Argentina, and a small quantity from the United States, though there is plenty of land in this district upon which all these products could be raised.

As Brazil is nearly as large as the United States, I can not speak as to the chances for the implement trade in the whole country, but have to confine my remarks to this consular district, which includes the States of Bahia and Sergipe. I understand that in Rio Grande do Sul and Santos they devote more attention to modern farming.

The whole of the Argentine Republic offers a good market for all kinds of agricultural implements.

BEER TRADE IN BAHIA.

It is only of late years that there has been much demand for beer in this section of Brazil. At first, that used was about all imported; but this was later rendered impossible, as so high a duty was put on beer that it could not compete with the national article. Meantime, this had so improved that now, even with lower duties, it would be able to hold considerable of the trade.

At present, Bahia draws its beer supply almost entirely from the Rio de Janeiro and São Paulo breweries. From Rio de Janeiro comes "Francescana," which is represented here by Mr. John Eggers, who wholesales it at 54 milreis ($8.10) per case, and "Teutonia," for which Mr. Prealle, the ice manufacturer, is agent and which wholesales for 60 milreis ($9) per case. From São Paulo comes "Bravaria," for which Stumpe & Studer are agents and which wholesales at 68 milreis ($10.20) per case, the higher price being due to the additional freight charges.

The above marks of beer are of the class known as light, as distinguished from strong, beer. All are packed in light cases holding

48 quarts or 92 pints, each bottle being surrounded by straw to prevent breakage, and being well corked.

Though there is a difference in the wholesale price of the different brands, the retail price is the same for all—2 milreis (30 cents) per bottle, or 1.200 milreis (18 cents) per half bottle or pint, and at present from 1,000 to 1,200 cases per month are consumed.

During the past few months an attempt has been made to supply "Teutonia" in wooden kegs holding 25 liters, wholesaled at 1.600 milreis (24 cents) per liter. This, when placed on draft, is called "chopps" and sells for 600 reis (9 cents) per glass, there being four glasses to the liter. A combined air pump and faucet is used to draw this beer, and there is no arrangement for keeping it cool in refrigerators as in the United States. The only cooling that it gets is that given by Mr. Prealle at his ice factory prior to his wholesaling it. Should the beer subsequently become warm, ice is served in the glass with it; having once been chilled, it can not be chilled a second time and is undrinkable after standing over night.

On account of the loss that this would entail upon small dealers who could not dispose of a certain number of kegs per day, they will not attempt to handle keg beer; so its use is confined to about five retail establishments, two of which Mr. Prealle himself runs.

To understand the beer and liquor trade here, it is necessary to state that there is but one establishment that approaches a saloon as we know it, and that is the place recently opened by Prealle and called "Teutonia Halle." Here he sells beer by both bottle and glass and averages from 3 to 6 kegs of beer per day. This is the greatest amount consumed in any one place; in fact, there is no other which will average 2 kegs per day. There is no refrigerator in this place, and consequently a partly consumed keg can not be kept over until the next day. On this account, they are careful never to put a new keg on tap unless there is a chance of selling practically all of it before the place closes.

The other places where beer is sold are in the six restaurants and hotels (which serve it at their tables both with and without meals), the three clubs, and all the grocery stores. At only half a dozen of the large grocery stores, styled "armazem," is any quantity sold to be drunk on the premises. These, which are wholesale and retail establishments, have at their rear a room fitted up with tables and chairs, and sell drinks by the glass.

The other class of grocery stores, which are smaller affairs, strictly retail, and are called "vendas," also deal in beer and other liquors and usually have a few glasses for those who care to drink on the premises. This class of store is seldom entered except by the lower classes, such as car and cart drivers, laborers, and cooks, and by the

cooks, as it is the custom of the country for them to do all the purchasing of groceries, vegetables, meats, etc., for the houses at which they work. Those frequenting the "vendas" seldom if ever buy beer for themselves, preferring instead some of the cheap wines, but especially the native rum—"cachaca"—a whole glassful of which can be bought for 40 reis.

There is always a demand for bottled beer at receptions, balls, and public and private functions, as it is the custom of the country to have all kinds of drinks at such affairs, a room usually being set aside especially for that purpose. Of late, beer in the cask has even been on tap at weddings and other private affairs. There is little demand for beer for private table consumption, it being the custom of the country to always drink wine with the meals; and even the poorest people arrange to have wine of some kind at those times.

English and German beers can be delivered here cheaper than our beer on account of the higher freight charges from New York, and I hardly think that there would be a chance to sell our product.

During the past two years there have been several consignments of our beer here, but in no instance did it give a profit to the shipper. In one case there was an almost total loss, because the exporters failed to properly pack and used patent stoppers instead of corks.

The new tariff which went into effect on January 1, 1900, provides for a duty of 750 reis per kilogram* for beer in the wood, and allows a rebate of 20 per cent for cask, while the duty on bottled beer is stated at 500 reis gross weight—that is, beer and bottle. The duty is given in paper money, and the law further provides that 15 per cent of the duty shall be paid in gold. The paper money—the circulating money of Brazil—fluctuates so much in value that it is impossible to give more than an approximate equivalent of the duty, which to-day would be 946 reis paper per kilogram for beer in the cask and 590 reis paper per kilogram for bottled beer, the 1,000 reis, or 1 milreis, being to-day worth a fraction over 15 cents of our money.

With these facts, if there are any of our export houses which think that they can compete in this market, they may write in English to the firms of F. Stevenson & Co., Anderson & Rowe, or Conde Filho & Ca., all of which are commission houses of good standing and are doing considerable business with the United States.

H. W. FURNISS,

BAHIA, *January 18, 1900.* *Consul.*

* 11 cents per 2.2046 pounds. It should be noted, however, that 15 per cent of the duty is payable in gold.

LINSEED IN THE RIVER PLATA.

A Chicago company has asked this consulate to furnish it information in reference to the movement of flaxseed from this port particularly, and also from the La Plata country in general.

Answering thereto, I beg to say that the exports for Uruguay for the years named were as follows:

Year.	Quantity.	
	Kilograms.	*Pounds.*
1896	1,970,346	4,343,825
1897	1,042,123	2,297,464
1898	1,118,506	2,465,858
1899	1,200,000	2,645,520

This finds a market in England, France, and Germany.

The exports from Argentina for the present crop year (1899–1900) are given by the recognized authorities as approximating 280,000 to 300,000 tons, the prospects being of the best character.

The actual exports from Argentina for the year 1899 are officially given at 212,829 tons of 2,204 pounds each, the total for 1898 being 170,210 tons and for 1897 154,710 tons. On the new ground the crop has been found very profitable.

Europe takes all exportations, and very eagerly. The prices have been steady at from 44 to 47 cents in United States gold the 10 kilograms (22 pounds), upon which basis it is sold by the producer, instead of by the bushel.

ALBERT W. SWALM,

MONTEVIDEO, *January 12, 1900.* *Consul.*

PARAGUAYAN TEXTILE PLANTS.

Owing to the interest manifested by fiber dealers in the United States in this subject, I submit a supplementary report to that sent August 15, 1899.*

I omitted in that report to speak of a very important textile called "ibira," from which useful articles can be made. I am informed by the Minister of Foreign Affairs that it has a fine fiber and can serve for delicate textiles, such as handkerchiefs, shirts, etc. Ibira can also be used in making good paper. I am told that it is not necessary to extract the fiber, as the entire leaf can be used, the

* See ADVANCE SHEETS No. 554 (October 16, 1899); CONSULAR REPORTS No. 231 (December, 1899).

gummy substance being of much service. The soil here is well suited to the growth of this plant.

Paraguayan pineapple leaves have a most excellent fiber; I presume this ranks among the best in the world. The growth of this fruit is also profitable. One can sell the pineapples and then utilize the leaves in making fiber.

Sansaverde, to which I referred in my former report, is remarkable for its enduring qualities when submerged in water.

Caraguata is the most abundant fibrous plant in Paraguay and can be used for everything in the line of coarse textiles, especially for rope. I am satisfied that the cultivation of this plant would be profitable. The soil is well adapted to its production, it is easy to gather, and there are good facilities of transportation. Land could be obtained at reasonable rates, though there is very little left belonging to the Government.

The forests of the country are full of caraguata. It has been estimated that with ten or fifteen machines a daily production of 1,000 kilograms (2,200 pounds) could be had. The price of a machine for the separation of the fiber would be $400 gold, more or less.

The fiber which comes from the machine is clean and of the full length of the leaf, 2 to 3 meters. It is also adapted for rope as well as for bags and sails, as it does not rot in water.

An establishment could be erected 35 or 40 leagues north of Asuncion, in a location surrounded by navigable rivers, giving more motor force than is necessary.

The freight from Buenos Ayres to New York can be found out from the office of the Lamport & Holt line of steamers, New York.

JOHN N. RUFFIN,

ASUNCION, *January 15, 1900.* *Consul.*

CASSAREEP IN PARAGUAY.*

Cassareep is made from the juice of *Mandioca amarga*, or bitter mandioca. There exist some eighty different kinds; all were originally produced in South America. It is variously known as *Mandioca amarga*, comun (Paraguay), juca mandiruca ó jatrofa (Colombia), cassava (West Indies), juca (Peru and Ecuador), and manioc amère ó utile, cassava amère ó mandiuba in the French colonies.

Another kind is *Manihot aipi*, Pohl, commonly known as mandioca dulce mansa or aipi (Paraguay), aipim (Brazil), cassava dulce, camanioc, manio canassa (West Indies).

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*This report was made in compliance with a Department instruction, and is one of a series on "Cassareep in Latin America" (ADVANCE SHEETS No. 664, February 27, 1900). It arrived too late to be printed with the others.

Mandioca brava, or amarga, is a shrub from 6 to 8 feet high and about an inch in diameter. The tuberous roots are from 1 to 2 feet long, some weighing 25 pounds, producing a milky juice. Mandioca dulce, or mansa, is a smaller shrub, and the roots contain less cyanic acid. Dr. Peckholt made the following analysis:

Mandioca dulce.

	Grams.
Water	59.598
Anhydrate hydrocyanic acid	0.002
Starch	20.273
Greasy substances	0.2
Albumina	0.608
Mannita and prysmatic sugar	1.54
Sugar not crystallizable	1.98
Fibrous substances	14.122
Inorganic salts, gum, etc	1.678
Total	100

Mandioca amarga.

	Grams.
Water	62.18
Anhydrate hydrocyanic acid	0.011
Starch	24.5
Greasy matter	0.112
Mannita and glucose	2.5
A substance similar to amygdaline	1.18
Albumina	0.549
Fibrous substances	4.34
Inorganic salts, gums, etc	2.62
Loss	2.008
Total	100

The fecula of mandioca is the smallest grain of all starch and is known in commerce as tapioca. From mandioca is obtained dextrin glucose. In this country mandioca is used instead of potatoes. Before the war it was extensively cultivated; in the year 1863 there were 834,918,300 plants. Little attention is now devoted to it, because, I am informed, it kills the chickens and cattle.

Labor here is cheap. The soil is especially adapted to the growth of mandioca, and transportation facilities are good.

I believe we could do a profitable trade in this article. All possible encouragement will be given to Americans who care to enter the business, I am told by the authorities here.

It would be necessary to cable here if our dealers desire the next crop, as within two months planting will begin.

I am convinced that Paraguay offers the best opportunities for the cultivation of this product.

JOHN N. RUFFIN,

ASUNCION, *January 15, 1900.* *Consul.*

CUSTOM-HOUSE FINES IN MEXICO.

The secretary of legation at Mexico City, Mr. McCreery, sends, under date of March 1, 1900, printed translation of a decree abolishing the payment to customs officials of a share in fines levied upon importers for infringement of the customs laws. The decree reads:

Whereas, first, the fact that custom-house collectors and accountants are entitled to a share in the proceeds of fines which they themselves impose for certain infractions of the custom-house laws is liable to cause importers at the large commercial centers, where the aggregate of fines is greater than at other custom-house points, to harbor doubts as to the impartiality of the functionaries in question and the justness of the fines imposed by them, and although the decisions of said functionaries are subject to revision by the higher bureaus of the Department of Finance or by the tribunals of the federation, constituting a positive safeguard for the rights of private persons, it is nevertheless desirable, from the point of view of the public service and the self-respect of the functionaries themselves, that their action should not be hampered by the fear that their imposing of the penalties provided by the custom-house laws may be supposed to be influenced by personal or unworthy motives;

And whereas, secondly, only the employees of custom-houses of the first and second rank are thus situated, and not those who render their services in the smaller custom-houses in which the importations are very unimportant, as are also, in consequence, the amounts received by the employees entitled to a share in the pecuniary penalties imposed by them on offenders; on which account the share system is not attended with the same drawbacks as have just been spoken of and can be retained in part as a reasonable stimulus in behalf of employees to whom the Government has intrusted duties of which the remuneration is small, so that they may gain experience and in time deserve to be promoted to more important custom-houses;

I have seen fit to decree the following:

ARTICLE 1. On and after the 1st of April next, the collectors and accountants of custom-houses of the first and second rank will cease to have a share in the proceeds of any kind of pecuniary penalty for infringements of the custom-house laws that may be discovered on and after the date in question; with the exception of penalties imposed in cases of contraband, in which they shall continue to enjoy the share granted to them by law.

ART. 2. On and after the same date of April 1 next, the 5 per cent of the proceeds of fines for false declarations, covered by article 633 of the ordenanza, shall cease to be set aside in said custom-houses of the first and second rank.

ART. 3. The collectors and cashiers of all the other custom-houses of the Republic shall only cease to have a share in the proceeds of fines imposed on and after said 1st of April for any of the infringements which the ordenanza considers as deficiencies (faltas), including all the fines that are imposed under article 545 of said ordenanza, and for the infringements discovered in the comparison and collation of manifests and applications for clearance, as also in the classification of additions; saving the cases wherein these additions or the rectifications made in the consular invoices are not allowed to pass, on account of their being considered to constitute an abuse, as provided by article 158 of said ordenanza, amended by decree of March 22, 1898.

ART. 4. The collectors and accountants of custom-houses of the first and second rank, in addition to the salaries assigned to them by the budget, shall, after July 1 of the present year, receive an annual gratification which can not exceed, for the collector and accountant of the port of Veracruz, 150 per cent of their respective salaries; for the collector and accountant of the port of Tampico, 100 per cent; for the collectors and accountants of the other first-class ports, 50 per cent; and for the collectors and accountants of all the second-class custom-houses, 33⅓ per cent.

ART. 5. The gratifications alluded to in the foregoing article shall be paid each month in proportion to the salary earned by the respective employees, on the basis of the maximum fixed by this decree, saving orders to the contrary from the Department of Finance suspending the payment of the gratification or reducing its amount.

ART. 6. The amount of the share in fines and confiscations which the collectors and accoutants of custom-houses are no longer to receive, as well as the proceeds of the 5 per cent divisible for false declarations and alluded to in article 2 of this decree, shall be applied to a special account to be known as deposits, and in keeping this account the custom-houses shall conform to the instructions to be issued by the general custom-house bureau. The gratifications paid out under article 4 shall be charged to the same account. The balance of said account at the end of each fiscal year shall either be credited under the head of incidental receipts or debited under such item of the budget of expenditure as the Department of Finance may determine.

ART. 7. [Provides that the annual gratification of the director-general de Aduanas shall be paid from the same fund.]

PROPOSED STEAMSHIP LINE FROM JAMAICA TO ENGLAND.

The negotiation which has, for many months, been going on with Messrs. Elder, Dempster & Co., of England, to establish a direct line of steamers for the purpose of carrying fruit fortnightly from Jamaica to England was completed by the governor in privy council on the 24th of January, 1900, agreeing to the secretary of state's proposal that Jamaica should contribute £20,000 ($97,330) per annum for ten years towards the subsidy of £40,000 ($194,660) per annum for the same period, which the above company has requested.

There has been considerable discussion from time to time, both at meetings and in the newspapers, concerning the development of markets outside of the United States for the fruit produced in this island. This consideration has been brought about by the idea that the United States may grant preferential rates or free trade to Cuba and Puerto Rico, thus practically closing the existing fruit trade between Jamaica and the United States.

This subject has been more or less talked of for the past fourteen months, but it has been the all-absorbing topic for the last three or four weeks. The decision of the governor and his privy council is receiving both favorable and unfavorable comments in the press—some based on the opinion of the agriculturists adjacent to King-

ston, who would be the ones most likely to benefit by the scheme, and others on those of residents of the northern parishes, who have very much larger interests at stake; for example, the United Fruit Company, which is admitted by all to be practically the sole support of that part of the island.

It is proposed to raise the £20,000 ($97,330) in one or other of these ways: First, £5,000 ($24,332.50)—which has already been inserted in the estimates—from the general revenue fund, £2,500 ($12,156.67) or £5,000 by reducing or abolishing the present mail subsidy to the Royal Mail Steamship Company, and the remaining £10,000 or £12,500 ($48,665 or $60,821.67) by an additional tax on banana lands; second, £5,000 from the general revenue, £2,500 or £5,000 from the mail subsidy, and the other £10,000 or £12,500 by an export duty on bananas.

The questions which are eliciting grave thought on the part of American growers and planters are: Must the fruit which goes to the United States be taxed in order to create another outlet for Jamaica's products? Must the United Fruit Company (which owns, it is safe to say, one-third of all the fruit lands, which trades exclusively with the United States, and is composed solely of American capital) be compelled to pay, as a unit, the largest quota towards the profit of a company which—in some respects—will be operating against it?

Should either of these proposals be accepted, it will undoubtedly operate against all American capitalists in or out of the island who possess interest in the fruit business.

One man, a member of the legislative council, has expressed the opinion that only the fruit sent to England should be taxed; but, since there will be only fortnightly voyages and the proposed capacity of the vessels is limited to 25,000 bunches of bananas, it is obvious that the tax must be excessively high to be effective.

Neither of the schemes has yet been submitted to the legislative council. Definite results are eagerly looked for.

NICHOLAS R. SNYDER,
Commercial Agent.

PORT ANTONIO, *January 25, 1900.*

EXPORTS OF COLOMBIAN CATTLE TO CUBA.

The Department has received from Vice and Acting Consul Hanabergh, of Cartagena, under date of February 10, 1900, and Consul Shaw, of Barranquilla, under date of January 25, 1900, translation of a decree the provisions of which are summarized as follows:

The Government, whenever it deems it convenient, can export the cattle bought from private owners for the official butcheries.

The exportation of cattle is open to all who pay an export duty of 20 pesos ($8.72) per head. The permit for the shipment of cattle will not be granted until the shipper produces a receipt proving that this tax has been paid. If cattle are shipped without paying the tax the owner is subject to a fine of 100 pesos per head. The payment of the export tax will be made at the national fiscal agency at the port where the shipment is made. This decree will take effect fifteen days after it has been published. The decree is dated December 28, 1899.

Owners of cattle, adds Mr. Hanabergh, are making all possible efforts to ship their herds, preferring to pay the tax rather than to have their stock pass into the hands of the Government. During January last, the shipments to Cuba amounted to 9,722 head, and these shipments will probably continue for some time.

OPENINGS FOR AMERICANS IN NICARAGUA.

In answer to inquiries by a New York correspondent (to whom the letter has been sent), Consul Donaldson, of Managua, on February 10, 1900, sends the following information:

As teachers and professors in Government and other schools in Nicaragua, there is really no opening for our young graduates. Salaries here are insignificant and customs so different that Americans have never proved successful. The salary of a principal here is 50 pesos, or about $17, per month.

American physicians and surgeons are successful here, but no part of the world is more crowded with them than the large towns of Nicaragua. Hundreds of the native young men study medicine in the United States and return here to practice. They understand better their own diseases, customs, and people than a foreigner could, and the majority of the people prefer them. Dentists, however, are scarce, and whenever an American dentist comes he does a good business and can charge remunerative prices.

Engineers of all kinds are the most successful of any professional men in these tropical countries. Very few natives follow that vocation, and most of the engineers employed by the Government are foreigners. An engineer's salary at the start is from 250 to 300 pesos ($80 to $100 in United States gold) per month.

Business here is the favorite occupation for all natives. The wives of officials, of planters, of lawyers, of doctors, and even of politicians have their little shops and thus crowd every town with stores. Salaries for clerks are not worth the consideration of any foreigner.

AMERICANS IN JAPAN.

Consul-General Gowey sends from Yokohama, February 5, 1900, copy of his reply to an inquiry from a resident of New York, relative to opportunities of employment in Japan. Inasmuch as Mr. Gowey has, he says, frequent occasion to communicate this information to parties in the United States, the letter is given below. It reads:

There are more young men here seeking clerical and official places than there are positions to be filled. Every issue of the English daily newspapers contains notices from young men seeking positions, many of them claiming experience in bookkeeping or the silk or curio trade, and the ability to speak and write French, German, etc.

There is no chance whatever to obtain positions under the Imperial Government, for the tendency in official circles is to discharge foreigners as fast as practicable and fill their places with Japanese.

Every year finds an increasing number of young Japanese who have been educated abroad coming home and seeking positions, and it is, of course, the natural and inevitable thing that they should fill the places in their own Government.

I would not recommend Americans to come to this country unless they have secured employment in advance.

AMERICANS IN KOREA.

Korea now employs no foreign military officers as advisers or instructors in its army and is not likely to do so, owing to an agreement made with Russia when a large staff of Russian officers were allowed to leave. By this agreement, Korea announced her ability and intention to dispense with further assistance of that kind.

The many requests from young men who have recently left the service of the United States, asking for positions in connection with the Korean army, are futile. There is no demand for their services in Korea.

There is also no demand for foreign advisers to the Korean Government. Although two Americans who held such positions have recently died, their places have been filled, and there is no further demand for assistance of that kind. The newspaper report that one of these advisers had been receiving a salary of $100,000 gold per annum is entirely misleading; such positions pay from $150 to $250 per month.

There is no demand for employees on the railroads in Korea. Japanese control and operate the steam railroad, and Koreans and

Americans are employed on the electric railroads. I believe the positions are all filled.

Employment with the mines would have to be secured before coming to Korea. The agent of the mines in America is H. A. Noble, representative of the Oriental Consolidated Mining Company, San Francisco. Prospectors can not operate in Korea, and there is no employment with the mines other than on wages. I am told the mining company has no lack of applicants.

HORACE N. ALLEN,
Consul-General.

SEOUL, *January 28, 1900.*

POSTAL SERVICE IN KOREA.

For a couple of years past, Korea has maintained a domestic postal service in good working order, under the supervision of a French postal expert, M. Clemencet, using stamps printed in the United States.

On or about January 3 last, the first mail ever sent out to foreign countries by the Korean post was dispatched from the central office in Seoul.

The stamps used were the ones still in use in the domestic postal service and printed in the United States. A new issue has been ordered from Japan, but has not yet been received. It is possible these new stamps will not be used for long, if at all, as they are simply a modification of the old Japanese stamps and are not pleasing to the Koreans.

At present, as Korea has no steamship service of sufficient regularity to permit of a regular mail service with China and Japan, a contract has been made whereby the Korean mail pouches are received at the Japanese post-offices in Korea and forwarded with the Japanese mail. The recent establishment of a regular line of Russian mail steamers to and from Korea will probably facilitate the transmission of Korean mails, as the Japanese steamship companies have seemed reluctant to carry Korean mails in competition with their own postal establishments in Korea, and the above-named arrangement with the Japanese postal authorities was the best that could be made.

The Japanese post to and from Korea will probably continue to be patronized until the Korean post is shown to be entirely reliable.

Two covers from this legation were the first to be stamped and canceled for the first foreign mail sent out from Korea.

HORACE N. ALLEN,
Consul-General.

SEOUL, *January 17, 1900.*

INDUSTRIAL DEVELOPMENT IN SIAM.

Rice cultivation is the principal industry of Siam. There are twenty-six steam rice mills in Bangkok, and, although the first one in the country was started by an American, none are owned by Americans to-day. Four are European and the rest are owned or managed by Chinese. Some of the Chinese firms have a very large capital. Seven of the mills have their own electric-light plants, one of which was furnished by an American house; all the other supplies and the rice-milling machinery used here have come from England and Scotland.

A few years ago the paddy or rice husk, which is used for fuel, was so cheap that much waste was permitted in its consumption; now, however, the rapidly increasing price of fuel has created a good market for this husk, and efforts are being made to economize by introducing more improved methods of combustion.

Teak wood is the next most important industry of the country, and there are ten large steam sawmills and many smaller handmills in the city for the manufacture of teak lumber. Three of the mills have their own electric-light plants, and all of them get their machinery and supplies from Great Britain.

Twenty years ago shipbuilding was carried on quite extensively. At present, however, there are only four small docks and shipyards, and only small boats are constructed. There have been built on an average for several years past about 25 steam launches of from 17 to 30 tons burden, 30 cargo boats (craft about 50 feet in length by 13 feet beam), and 8 lorchas, or Chinese sailing craft, 110 feet in length by 22 feet beam; while hundreds of the smaller boats of all descriptions that swarm the rivers and canals are turned out every season. All supplies and machinery for this industry come from Europe.

There are four large machine shops and foundries in Bangkok; also the shops of the two railroad systems, supplies for which likewise come from Europe. The large electric-lighting plant for the city and the two power houses for the electric tram-car system obtained their equipment in Europe and the United States.

There are in the city twelve printing establishments in which English type is used and twenty-four in which Siamese printing is done. These include in their output three daily papers, periodicals, and books of all descriptions, besides many lesser publications and much job work. The printing supplies for the city, for the most part, come from Europe. The United States is now furnishing a

portion, however, and American paper has within the last year made a decided hit and is just now increasing in favor.

Lubricating oils for all these manufactories are supplied by the Vacuum Oil Company and the Charles Price Oil Company, both of London. The native castor oil of this section is a vigorous competitor, selling anywhere from $12 to $14 Mexican ($5.69 to $6.64 in United States currency) per picul (133 pounds). During the last six months, the importation of crude petroleum in bulk from Russia and Borneo has been going on, and efforts are now being made to introduce it as a fuel in the factories and on the steam craft that ply in the inland waters. The effort thus far is meeting with very questionable success and seems to promise little in the way of trade.

As a result of the gradual improvement of the streets of the city during the last ten years, very many vehicles of all descriptions are used. The extent of the city makes travel by carriage almost a necessity; hence, Bangkok is probably a long way ahead of any other city in the Far East in the use of wheeled vehicles. The demand was at first supplied principally from outside sources; but of late a local industry has been springing up, and 90 per cent of the carriages in use are now manufactured in Bangkok. Without exception, however, they strike the American as unnecessarily heavy and clumsy. The streets of the city are perfectly level, no point for miles around being more than 3 feet above high-water mark, and, being built of brick or macadam, are most adaptable to the use of light-running vehicles of all kinds. Moreover, the native ponies, which have proved themselves best fitted to stand the trying climate, are very small, weighing only from 500 to 700 pounds, and hardly suitable for the heavy vehicles. But these little animals are used so exclusively that there are not more than thirty full-sized horses in the city. In view of these conditions, it would seem that the different styles of light-running American vehicles would prove very desirable if once introduced. The workmanship and material must be first class to meet the climate, which changes very quickly from extremely wet to hot and dry; but if well made, there is no doubt that our vehicles would wear quite as well as the cumbersome ones now in use, while their greater lightness and beauty would win for them a place in this market.

American paints, oils, and varnishes are still unknown here; but, in view of the amount of building now in progress in the city, including the construction of docks and shipyards, as well as the rapidly growing carriage industry, there is no doubt that there is an opening here for American trade in this line of goods.

The greatest obstacle is the cost of freight, due to the repeated transshipments en route. A through line of steamers from New

York to Manila, with regular sailings, would be a great assistance, necessitating but one transshipment at Singapore, and placing American goods on an equal footing for the most part with goods from Europe. There is but one line of steamers from this port direct to Europe—the East Asiatic Line, from Copenhagen to Bangkok. The service consists of one steamer each way every three months.

The Germans are coming to the front very rapidly in Siam. Prince Henry of Prussia is here, and the last two weeks have been spent in a constant ovation to him. The Emperor of Germany from time to time, by personal letters and by presents to the King of Siam, has helped the German interests here very materially. England and France seem to be losing ground.

I transmit a clipping from the British organ in Bangkok.

HAMILTON KING,
Consul-General.

BANGKOK, *December 28, 1899.*

SALE OF THE SCOTTISH ORIENTAL LINE.

[From the Bangkok Times, December 27, 1899.]

The sale of the Scottish Oriental line of steamers to the all-powerful German syndicate is now an accomplished fact. There are thirteen steamers, in addition to the tugboat *Bangkok*, and though the three oldest vessels—the *Mongkut, K'ong Beng, Taichiow*—are rather small, the line is a splendid property. All these boats have been built with the greatest care and thoroughness, and there can be no doubt that the syndicate has had to pay a very high price.

The news has taken British residents here somewhat aback. For years the shipping of the port of Bangkok has been British, and the British have been in the habit of referring to the fact with considerable complacency. In 1898, over 74 per cent of value of the exports and over 88 per cent of the imports were carried in British bottoms. Now British and German shipping will practically change places. They stood as 396 to 31 in 1898; in 1900, according to the present outlook, it will probably be nearly the other way. Some six months ago 33 per cent of the British shipping went, and now the sale of the Hongkong liners will represent another 33 per cent. This announcement has certainly added an eclat to Prince Henry's visit that it was not generally expected to have. It would be absurd to suppose that British residents here regard the change with indifference. It is not only the shipping that has gone; the value of the British imports will also suffer. At the same time, it is absurd to cry out as if some unfair advantage had been taken. The whole thing is a matter of business. The future of our shipping here will be watched with interest. The bulk of our trade is done with the two nearest British colonies, and we should think that as that trade grows British vessels ought to secure at least a fair share of it. It is curious to recall the fact that the agency of the Scottish Oriental Line was at one time going begging for over a month in Bangkok.

THE CULTIVATION OF COFFEE IN INDIA.*

AREA.

At the end of 1898 there were 281,570 acres of land under coffee in India, all, with the exception of 549 acres, in southern India. The cultivation of coffee is, in fact, restricted for the most part to a limited zone in Mysore, Coorg, and the Madras districts of Malabar and the Nilgiris. About 45 per cent of the coffee-bearing area is in Mysore, where there were 128,079 acres in 1898. The plant is grown on 128,410 acres, forming another 45 per cent, in the British districts of Coorg (82,575 acres), the Nilgiris, and Malabar (45,835 acres). If to these two areas are added 6,384 acres in Travancore and Cochin, we find 93 per cent of Indian coffee concentrated in the elevated region above the southwestern coast. Mysore, Coorg, and the Madras districts contain 97 per cent of the coffee-growing area.

In the Madras presidency, cultivation on an extended scale is confined practically to the two districts already mentioned and to Salem and Madura. The only other province in which coffee is grown, except experimentally or to an insignificant extent, is Burma; and the cultivation there, mostly in Toungoo, is very limited.

The area in Madras, after a reported contraction in 1896 and 1897, again expanded in 1898 to the level of 1894 and 1895. In Coorg, the area reported in each of the last three years is much beyond the average, but in Mysore it has been reduced approximately to the level of 1892.

PRODUCTION.

The yield in 1898 was about 23,750,000 pounds, that of 1897 having just exceeded 24,000,000 pounds. The production of both years was extremely poor, following a small yield in 1896. The poverty of the crop in 1896 and 1897 was due in the main to adverse seasons in Mysore, Coorg, and Travancore. In all three cases there was a recovery in 1898, which was, however, incomplete in the case of Mysore; but, to set against this recovery, the Madras crop was a signal failure. Since 1897, the fall in prices has removed the stimulus which had been given for a few years to the expansion of the coffee-growing area, and disease has combined with adverse climatic conditions to reduce the yield.

*This report was made in answer to inquiries by a resident of New York, to whom ADVANCE SHEETS have been sent.

Taking 100 to represent the area and production in 1885, the ratio of yearly increase or decrease is as follows:

Year.	Area.	Production.	Year.	Area.	Production.
1885	100	100	1892	110	97
1886	97	90	1893	109	109
1887	103	109	1894	117	101
1888	104	76	1895	119	115
1889	110	85	1896	121	75
1890	114	63	1897	116	69
1891	111	113	1898	118	68

PERSONS EMPLOYED.

According to returns, there were, in 1898, 25,930 persons employed permanently and 88,550 temporarily on the coffee estates, making a total of 114,480 persons, which is equal to one person to 2.46 acres.

EXPORTS AND CONSUMPTION.

The following figures show the average of the five years ended 1898–99:

	Pounds.
Indian coffee:	
Production	29,849,357
Exports	28,628,544
Left in India	1,220,813
Foreign coffee:	
Imports	1,564,416
Reexports	1,025,225
Left in India	539,191

About 96 per cent of the production is exported, and the coffee consumed in India consists of Indian and imported coffee in the proportion of 69 per cent of Indian coffee to 31 per cent of foreign. The explanation of the fact that such a large proportion of foreign coffee, mostly imported from the Straits, is consumed in India doubtless lies in the disinclination of the planters of southern India to take any account of the local market.

The principal countries to which were shipped the 30,246,272 pounds of Indian coffee in 1898–99 were:

	Pounds.
United Kingdom	17,392,480
France	9,356,816
Austria-Hungary	1,023,568
Germany	618,688
Ceylon	505,680
Australia	265,440
Arabia	229,488
Asiatic Turkey and Persia	131,264

PRICES.

Coffee is not sold, as tea is sold, before shipment for export, and therefore there is no Indian quotation of price. The average prices in London for East India plantation coffee in each of the last twenty-five years are here subjoined:

Year.	Per cwt. (112 pounds).		Year.	Per cwt. (112 pounds).	
	s. d.			s. d.	
1874	92 1	$22.40	1887	94 9½	$23.06
1875	107 4½	26.12	1888	85 6½	20.82
1876	108 2	26.32	1889	99 10	24.29
1877	110 0½	26.77	1890	100 2½	24.38
1878	107 6	26.15	1891	105 2½	25.59
1879	100 10	24.53	1892	104 2½	25.35
1880	99 9	24.26	1893	105 4½	25.63
1881	91 4	22.46	1894	101 0	24.57
1882	85 4	20.76	1895	101 2	24.61
1883	85 7	20.82	1896	99 11	24.31
1884	76 4½	18.58	1897	94 8	23.03
1885	75 3½	18.32	1898	78 1	18.99
1886	79 7½	19.37		*100 0½	24.34

* East India bold.

The table appended states the facts regarding the cultivation of coffee in detail for the two years 1897 and 1898. It should be noted, however, that the figures, for which the government is dependent upon the planting community, are imperfect and defective, planters, for unknown reasons, sometimes withholding information.

Province.	Number of plantations.		Total area under coffee.		Total yield.	
	1897.	1898.	1897.	1898.	1897.	1898.
British India.			*Acres.*	*Acres.*	*Pounds.*	*Pounds.*
Burma	11	13	308	324	77,212	16,504
Assam	3	3	152	168	190	320
Bengal	2	2	2	2	20	56
Bombay presidency	147	204	62	55	1,767	2,282
Madras presidency	12,615	12,066	55,895	63,983	11,763,219	4,805,411
Coorg	15,579	15,017	86,555	82,575	7,063,140	10,211,852
Total	28,357	27,305	142,574	147,105	18,905,548	15,036,425
Native states.						
Travancore	31	24	4,000	2,714	132,785	360,474
Cochin	19	19	3,624	3,670	350,176	759,660
Mysore	19,305	19,306	125,876	128,079	4,659,376	7,552,965
Total	19,355	19,349	133,500	134,465	5,142,337	8,673,099
Grand total	47,712	46,654	176,074	281,569	24,047,885	23,709,524

The foregoing report has been compiled with considerable care from data furnished me by the government of India and the Bombay

Chamber of Commerce. It may be considered to be as accurate as possible under the circumstances. The returns for 1899–1900 are not yet published; but, owing to the famine caused by the failure of the monsoons of 1899, it is safe to predict a considerable reduction in the coffee crop.

WILLIAM T. FEE,
Consul.

BOMBAY, *January 23, 1900.*

COTTON CROP IN INDIA.

The third general memorandum on the Indian cotton crop of the season 1899–1900 has just been issued by the director-general of statistics to the government of India, from which I compile the following as of interest to growers in the United States.

The season has been disastrous for the cotton crop. From northern, central, western, and southern India alike the reports are most discouraging. In the beginning of the season the rain fell in some tracts in such quantity as to interfere with sowings, while in others there was not enough to permit of sowings being freely made. There followed throughout the country an interruption in the rain, and the young plants withered and died under the drought and heat. In central and western India, especially Berar, the Nizam's territory, Rajputana, the Central States, and Bombay, the effects of the season have made themselves felt in the worst and most aggravated form. In many places, there is no cotton to pick; and, on the whole, perhaps not a fifth of an average crop will be obtained. In northern India conditions are not so bad, but they leave very much to be desired. For the whole of India it may be said that the area and yield compare with those of 1898, so far as an estimate can be made, as follows:

Year.	Area.	Yield.*
	Acres.	*Bales.*†
1898	14,170,501	1,365,864
1899	11,015,393	641,327

*It has been suggested by Mr. Alfred B. Shepperson, of New York, that the figures of yield in 1898 and 1899 given by Consul-General Patterson, and printed in ADVANCE SHEETS OF CONSULAR REPORTS, referred to exports. According to statistics furnished Mr. Shepperson by the Bombay Mill Owners' Association, the exports and home consumption in 1897–98 and 1898–99 were:

Home and foreign consumption.	1898–99.	1897–98.
	Bales.	*Bales.*
Used in India	2,088,000	1,894,000
Exported	1,414,000	1,080,000

†Of 400 pounds.

From the foregoing, it will be seen that the requirements for home consumption will absorb a large proportion of the crop, and the quantity for export will be comparatively small.

R. F. PATTERSON,
Consul-General.

CALCUTTA, *January 3, 1900.*

EARLY CLOSING IN NEW SOUTH WALES.

A law establishing the time of day for closing shops in this colony received vice-regal sanction on the 22d ultimo and came in force on January 1, 1900. As this law will exercise no inconsiderable influence on the business methods of the country, and as it appears as a new chapter in the social evolution of the times, I have deemed it proper to send this review.

For the sake of clearness, it may be wise to state that the word "shop" conveys a very different meaning in the United States from what it does in these colonies, or even in the United Kingdom or on the Continent. It may be well to remind the reader that here any place, from a stupendous department store down to a peddler's cart, is a "shop," not only within the meaning of the law, but in the common speech of the country.

The new law is of considerable length and rather confusing in its details.

CITIES.

Section 1, part 1, applies to the metropolitan areas, and I extract the following:

The closing times for all shops (except those mentioned in schedule 1) situate within the metropolitan or the Newcastle shopping district shall in every week be as follows:

On Monday and Tuesday, 6 o'clock.

On Wednesday, 1 o'clock or 6 o'clock, whichever of these times is chosen by the shopkeeper in pursuance of this act.

On Thursday, 6 o'clock.

On Friday—

(*a*) Six o'clock where the closing time on the preceding Wednesday was 1 o'clock.

(*b*) Ten o'clock where the closing time on the preceding Wednesday was 6 o'clock.

On Saturday—

(*a*) One o'clock where the closing time on the preceding Wednesday was 6 o'clock.

(*b*) Ten o'clock where the closing time on the preceding Wednesday was 1 o'clock.

And all such shops shall close on those days not later than the hours above mentioned, which shall be hours after the hour of noon on each day.

To the above there are several qualifications as to days preceding Christmas or New Year's days.

The following is schedule 1 referred to:

Part 1.—Hairdressers' shops.

Part 2.—Chemists' shops, druggists' shops, private dispensaries, public dispensaries, flower shops.

Part 3.—Fruit shops, vegetable shops, tobacconists' shops, confectioners' shops, newspaper and news agents' shops; public houses, hotels, and wine shops; undertakers' shops.

Part 4.—Restaurants, refreshment shops, eating houses, fish shops, oyster shops, cooked-provision shops.

Clause 2 permits any one of the many thousand venders to increase the complexity of the legal machinery created by this law, for it says:

(2) The choice of the shopkeeper as to the closing time on Wednesday may be made in respect of any shop occupied by him, and shall be made by sending to the minister or to any person authorized by the minister in that behalf a notice in the form prescribed, and affixing a copy of the notice in a conspicuous place in the shop. And until he makes such choice in the manner aforesaid, the shopkeeper shall be deemed to have chosen 1 o'clock as the closing time for his shop on Wednesday.

COUNTRY DISTRICTS.

The law varies in its application to country districts.

The country "shopping district" is composed of the "municipality," with the power in the governor to proclaim other districts and to "define the boundaries thereof."

From section 3, I take the following:

The closing times for all shops (except those mentioned in schedule 1) situate within a country shopping district shall be on one week day 1 o'clock; on one week day 10 o'clock; such days (until altered in pursuance of this act) to be those respectively proclaimed by the governor; and on the four other week days 6 o'clock; and all such shops shall close on those days not later than the hours above mentioned, which shall be hours after the hour of noon on each day.

With some qualifications as to Christmas and New Year.

In these "country districts," after a year from the adoption of this law, the shopkeepers, other than those enumerated in schedule No. 1, may decide by a sort of local-option vote the day on which the half holiday shall be held. This poll can not be taken oftener than once a year. Upon the time being changed by vote of said shopkeepers, the minister is to gazette the fact, and the law will be enforced accordingly.

ANALYSIS OF THE LAW.

A brief analysis shows that shopkeepers under part 1, schedule 1 (hairdressers), shall close at 7.30 on week days ordinarily; but on Friday or Saturday evening—as they may elect—they may remain

open until 10 o'clock. If they fail to make a choice, it is expected they will close late on Saturdays.

Shops mentioned in part 2, schedule 1 (chemists, druggists, dispensaries, and flower shops), shall close at 9 o'clock five days in the week and 11 o'clock on Saturday evening. Shops mentioned in part 3 (fruit and vegetable shops, tobacconists, confectioneries, news agencies, public houses, undertakers) at 11 o'clock, and shops mentioned in part 4 (restaurants, fish, oyster, and cooked-provision shops) shall close at 12 midnight. The half holiday does not apply to any shops under schedule 1, though it does apply to the employees of all shops.

SHOP ASSISTANTS AND CARTERS.

As to the employees, for whom this law seems to have been chiefly passed, it is provided that no "assistant" in a shop not under schedule 1 shall be employed over half an hour later than the hour fixed for closing; but during some twelve days in any half year an assistant may be employed for a period not exceeding three hours after the closing hour, provided one hour is allowed for refreshments. Every shopkeeper shall keep a record "exposed to all the shop assistants," certified by such assistants, and to be given the inspector when demanded; while no assistant shall be employed in any shop mentioned in schedule No. 1 more than sixty hours in one week, exclusive of hours for refreshments. It is provided that employees in all shops shall have one half holiday in every week, except when some legal holiday intervenes to give them a rest; and every employer who does not arrange to give assistants such a holiday shall be deemed "guilty of an offense against this act."

The law provides specially that every butcher and baker and milk vender shall give each employee engaged in delivering such articles half a day holiday each week.

SUPPLEMENTAL.

In a supplemental part, the act provides that the governor may alter the boundaries of shopping districts. The minister may appoint members of the police or other persons as inspectors, who shall have authority to enter any shop at any reasonable hour and inspect, inquire, or use such power as may be necessary for carrying out the provisions of the act; and any person obstructing such inspector in the exercise of these conferred powers shall be guilty of an offense against the act.

In the regulation of the act, the governor shall have considerable power, such as providing lists of shopkeepers entitled to vote (for the days on which the half holiday shall be held), deciding when

a corporation, etc., shall be deemed a shopkeeper, prescribing the duties of inspectors, and the like.

For violations of the law, information shall be laid within one month and tried before the court of petty sessions and—

Any person who is guilty of an offense against this act shall for the first offense be liable to a penalty not exceeding £2 ($9.73), and for any subsequent offense to a penalty not less than £2 nor more than £10 ($48.66).

GENERAL.

There are many anomalies in this law which tend to create confusion. "Closed" means, of course, closed to the admission of would-be purchasers. When it is remembered how the times vary for closing the different classes of shops, as mentioned in schedule 1, the following extract will show the confusion that may result:

(1) Every shop mentioned in schedule 1, in which is carried on any class of trade not usually carried on in shops mentioned in the schedule, shall be closed at the closing time fixed by or under this act for shops not mentioned in the schedule.

(2) Every shop mentioned in part 2, 3, or 4 of schedule 1, in which is carried on any class of trade usually carried on in shops mentioned in an earlier part of the schedule, shall be closed at the closing time fixed by or under this act for shops mentioned in such earlier part of the schedule.

For instance, a baker, not coming under schedule 1, must close at 6 o'clock, while the "ham and beef shop"—common here but unknown to us—may remain open under part 4, schedule 1, until midnight. This latter shop is left open for the benefit of the belated hungry individual, so that said hungry man may buy a piece of ham or cold tongue or the like; but he is not allowed to buy a loaf of bread, for the baker closed at 6 o'clock. And if by chance the ham shop has bread for sale, it also must close at 6 o'clock, for bread is among the articles excepted from schedule 1.

The news agent may remain open until 12 o'clock for the sale of newspapers; but, should one be tempted to sell a magazine, a bottle of ink, or a lead pencil, things usually sold by such shops, he is guilty of an offense against the act. As a fact, however, under the law as above quoted he could not remain open to sell newspapers if he carries any goods mentioned in the earlier part of the schedule.

I am told by some of the knowing ones that the larger shopkeepers are quite satisfied with the law, not only because many of them were already following the requirements, but because the closing of the small shops at so early an hour will inure to the benefit of the larger concerns.

PUBLIC SENTIMENT.

While there is a strong tendency in these colonies to mold the financial, industrial, commercial, and social structure by legislative enactments, it is not unlikely that the sentiments which developed

into the demands for these rather extreme measures grew out of the custom of many of the large establishments of closing at 1 o'clock on Saturday afternoon.

This is a country of enormous wealth and enormous commercial enterprise, but it is a country of extremes. There are a few large houses where many hundreds of clerks, salesmen, and other persons are employed, while there are thousands of small shops, stands, and stalls chiefly run by the owner alone or at best with the help of the family.

The object of this law seems to have been to please the working classes; but, as most of the larger establishments were already in the habit of closing at 6 o'clock five days in the week and at 1 o'clock on Saturday, it now occurs to many people that, instead of the law materially benefiting the employees of shops by giving them more hours of rest, it restrains thousands of small shopkeepers from making a living, as the evening has always been their harvest time.

The passage of the law has caused no little discontent, and its enforcement is causing no little confusion; and the minister of labor, under whose department this class of legislation is to be administered, has been besieged by deputations of the aggrieved.

The opinions of people regarding the wisdom of the new law are about as varied as their pursuits, and it is approved or denounced as it is supposed to benefit or injure the person concerned.

GEO. W. BELL,
Consul.

SYDNEY, *January 15, 1900.*

AMERICAN GOODS IN SYRIA.

My report entitled "Samples of United States goods wanted in Syria"* has brought offers of a variety of samples and a great quantity of correspondence. Messrs. Hummel & Mommaas, managers of the house of Fr. Wehner, take much interest in this sample collection and answer all letters of inquiry fully and conscientiously. For their own account they do not intend to handle other articles than flour and cotton goods. They hope to sell at least 1,000 sacks of flour per month when they get fairly started. As to cotton cloth, they will make a big effort to introduce these stuffs in opposition to Manchester.

Messrs. Sabbag & Fils are the largest exporters to the United States in this country. They send our country wool, licorice root, and bitumen to the amount of nearly $1,000,000 per annum. I have

* Published in CONSULAR REPORTS No. 230 (November, 1899), and in ADVANCE SHEETS No. 523 (September 8, 1899).

succeeded in interesting them in a general irrigation scheme, and, as a result of the report above alluded to, a company in Indiana offered to send here free of charge as a sample a complete windmill outfit. Messrs. Sabbag have ordered from the same company a well-drilling plant. We shall look for these machines in February, and, if our experiments prove successful, Syria will become a good market for our well drills, windmills, pumps, hand tools, etc. Mr. Ibrahim Sabbag will visit the United States this spring and may become the sponsor of other American products.

Russian oil having gradually risen in price during twenty months from 88 cents to $1.57 per box (65 pounds), there are hopes of reintroducing the American product into this market, where fifteen years ago American petroleum was sold to the amount of $200,000 to $250,000 annually. A prominent local merchant is at present in cable communication with the United States on this subject.

Negotiations are being carried on between Mr. Michel Ghalie, of the firm of Pharaon & Co., and houses at home concerning the question of coal. This firm disposes annually of about 100,000 tons of patent fuel (Cardiff briquettes) and Cardiff coal (soft), of which about a fifth is sold in Beirut, while the rest goes to other Syrian ports and to Port Said. Mr. Ghalie informs me that nearly all the coal consumed in the interior consists of Cardiff briquettes (rectangular pieces of pressed coal and pitch weighing 5 to 8 kilograms each), as they can be carried on camels more safely and without much waste. This patent fuel used to cost f. o. b. Cardiff 9s. to 10s. ($2.19 to $2.43) per ton. Last year the price was increased to 11s. to 14s. ($2.68 to $3.41), and now it is held at 18s. to 22s. ($4.38 to $5.35). The freight used to average 8½s. to 10s. ($2.07 to $2.43) per ton, but has gone up to 12s. to 14s. ($2.92 to $3.41). Coal, Mr. Ghalie says, that has been bought at Cardiff for 11s. to 12s. per ton is now hardly obtainable at 30s. ($7.30), on account of the spreading coal famine in Europe. Cardiff dealers would allow 2½ per cent discount for cash. American coal companies should quote prices c. i. f. Beirut.

Phillipe Turkel & Co. have, during the last three months, sent in several important orders for American hardware, glassware, and beer.

Letayf Brothers ordered a few weeks ago a supply of canned provisions, prepared cereals, and whisky from New York.

Affairs are moving in the right direction, and we would make fairly good progress if we had regular direct steamers plying between the United States and these ports, calling here once every six or eight weeks.

G. Bie Ravndal,

Beirut, *January 15, 1900.* *Consul.*

AMERICAN COMMERCE WITH ASIA MINOR AND EASTERN EUROPE.

I give below a statement of American products, aggregating over 600 tons, brought to Constantinople, Smyrna, and Salonica on the last steamer of the direct line. A considerable quantity of goods was also brought by this steamer to Alexandria, Beirut, and other Turkish ports; but statistics are not obtainable. Other steamers of this line have brought a heavier tonnage of American products, but the last shipments show a greater variety. I also note that since my last advices the manager of the exposition of American goods in this city has made definite arrangements to establish branches in Smyrna, Salonica, Beirut, and on the Dardanelles.

I inclose clippings from newspapers of this city, referring to the exposition here and the growth of American trade in the Orient.

CHAS. M. DICKINSON,
Consul-General.

CONSTANTINOPLE, *January 25, 1900.*

Imports per direct steamship to Constantinople, Smyrna, and Salonica.

[From manifests of steamship Montauk.]

Articles.	Weight.	Articles.	Weight.
	Pounds.		*Pounds.*
206 sacks of flour	33,990	1 box of tools	25
13 cases of hardware, 1 barrel of beer, and 21 kegs of boiler fittings	16,340	17 cases of plows	4,542
5,271 bags and 2,945 kegs of wire nails	1,129,497	170 bales of trunk coverings	12,718
7 cases of hardware	1,695	10 cases of cotton dry goods	3,485
25 barrels of sodium	12,952	15 wheelbarrows and push carts	2,663
1 box of dental goods	78	5 cases of oil stoves	753
1 case of supplies	25	16 cases, miscellaneous	5,396
1 barrel of bottled beer	485	8 cases of handles	2,441
100 pails of lard	3,200	Total	1,230,735
2 trunks	300	26 cases of domestics	*26,000
4 cases of wire netting	150		

*Yards.

[From the Levant Herald.]

According to the latest advices from Tashkend, it would appear that foreign capital and enterprise are about to play a very important rôle in the reclamation and industrial development of the vast tracts of hitherto barren and sterile territory in trans-Caspia. The Turkestan Gazette announces that there is now in Tashkend an agent of an Anglo-American syndicate which has been formed with the object of undertaking the irrigation and culture of certain lands in the neighborhood of the Central Asian capital. The new company commences operations with

a capital of 4,000,000 rubles ($2,060,000). Important though it be, this enterprise is of comparatively small magnitude as contrasted with another project of a similar character which is now being matured by a wealthy American syndicate whose expert engineers recently arrived in Tashkend. The undertaking of the latter concern is the reclamation and cultivation of the whole of the broad region known as the "Hunger Steppe" by means of a vast system of canalization and other irrigation works in connection with the Syr Daria. The waste waters of that great river are at last to be diverted to a useful and beneficent purpose. The American syndicate undertaking this colossal work is formed with a capital of 150,000,000 rubles ($77,250,000). The guaranty for this immense outlay is a freehold lease of the whole of the Hunger Steppe for a long term, probably for ninety years.

[From the Constantinopolis.]

A Paris commercial paper publishes an interesting letter from its correspondent concerning American trade with Turkey. It mentions the exposition just opened as a serious step on the part of America for increasing commercial relations with Turkey. This initiative is due to the American consul-general, Mr. Dickinson, to whom is also due the formation of a direct steamship line between New York and Constantinople. The exposition has been put into the hands of Mr. Zariffi, under whose management it has every chance of success. Sixty manufacturers and American exporters have already agreed to send goods to this exposition, and a first shipment of about forty cases, containing ironware, leather, boots and shoes, lavender water, hardware, tinned provisions, etc., has arrived and is on exhibition. It is evident that a large market can be opened for the sale of American manufactures.

[From the Moniteur Oriental.]

TRADE COMPETITION IN RUSSIA.

It is stated in the Odessa newspapers that German makers of agricultural and other machinery are uneasy about the proposed exhibitions which English and American agricultural-implement makers are likely to hold at the great centers of Moscow, Kief, and Odessa during the present year; and, acting under instructions from their own Minister of Trades and Manufactures, the German merchant guilds have expressed their desire to take part in these intended exhibitions in order not only to retain their hold on the Russian market, but to increase it, and, if possible, drive out their English and American rivals, who, up to a few years ago, held almost a monopoly.

GERMAN OPINION OF AMERICAN LOCOMOTIVES.

A Chemnitz newspaper publishes the following:

The public was recently told, regarding the granting of a contract for twenty locomotives to an American firm by the Saxon Government, that the American bid was not the lowest, but that it came near the lowest. Even this is not confirmed, at least so we learn from well-informed parties. The Baldwin Locomotive Works, in order to get a profitable result as soon as the decision should be known, acted in the real American manner by informing the Government, after the publication of

bids, that its price did not include the German duties.* This would easily add 4,000 marks (nearly $1,000) to each locomotive. This fact puts the price of quite a number of German firms lower than the American, and their beautiful advertisement amounts to nothing. We are convinced that under these circumstances it would never occur to the directors of our State railroads to send the money of Saxon taxpayers to America, in order to get goods acknowledged to be inferior—locomotives built by the dozen. * * * This business trick is a good brother to the one played by some American tool-making mills that have the habit of delivering 22,000-kilogram machines instead of those of 30,000 kilograms contracted for, taking care to collect pay before delivery. If one takes the trade practices of the trans-Atlantic industries into consideration, one must certainly admit that the German industries, thank God, have remained behind.

The fault found with our engines—that they are made by the dozen—is one of their great virtues. Only a day or two ago, an important dealer pointed out as a weakness of the German locomotives the fact that new parts had to be fitted. The animus of this article is obviously hostile. The big machine shops of this city are full of English and American machines, or copies of them.

J. F. MONAGHAN,

CHEMNITZ, *December 16, 1899.* *Vice and Acting Consul.*

AMERICAN SHOES IN GERMANY.

The recent speech of Consul Monaghan, of Chemnitz, before the Boston Boot and Shoe Club, has made a deep impression among the shoe manufacturers of Germany. Der Schuhmarkt, of Frankfort, asks:

What must Germany do to ward off the invasion of American shoes?

It is not so much a question of being able to meet American competition in a technical way as it is to devise some means by which our shoe industry may be protected. This may best be accomplished by raising the tariff. German duty on imported shoes amounts to practically nothing. The United States has a duty of 20 per cent on imported shoes. On this point Germany must do something to protect the shoe manufacturers of the Empire, who give employment to 80,000 workmen, not including the many independent shoemakers and cobblers all over the country.

How may this be accomplished?

First. Our opinion—and it is shared by many prominent shoe manufacturers—is that this report upon Consul Monaghan's speech should be placed in the hands of every manufacturer and shoe union as a foundation for an agitation in favor of a higher tariff. The subject should be discussed in the chambers of commerce of every district.

* NOTE BY CONSUL.—The attitude of the Baldwin people is natural, since the roads in this Empire are, for the most part, owned by the governments; it also finds a parallel in a case here in which the parties selling to our Government not only left the tariff entirely out of the question, but refused to pay the consular fees, referring the consul to his Government to get them.

NOTE BY BUREAU OF FOREIGN COMMERCE.—It appears also that the omission of the duties in the tender was discovered and the correction made by the Baldwin Works before any action was taken upon the bids.

Second. A petition should be presented to the imperial chancellor, signed by the largest number possible of the most important shoe manufacturers. It is time that the Government should be made aware of the necessity of a tariff for the protection of our shoe industry, and we recommend that the same duty be placed upon American shoes as the Union requires—that is, 20 per cent.

The article closes with a tribute to the American consular service. "Unfortunately," it says, "our consuls are entirely inadequate to the demands of our great foreign commerce. It is high time that Germany should incorporate something of the business element into her consular service."

Without question, Germany will make a systematic effort to keep out American shoes. This effort will be all the more determined, as the German shoe manufacturers are very well aware of the superiority of the American article. They are further aware that American shoes are becoming more popular every day in the German Empire. The retail shoe dealers find themselves forced to keep a supply on hand, and in the shoe-store windows of the large cities one sees the label "Genuine American shoes."

If a stock company of American shoe manufacturers were organized, I believe a good business could be done. A number of shoe stores, under American management and with American ideas, should be opened up in different parts of the Empire. The company should at the same time establish a large wholesale house with shoes of every kind, from which these retail stores and customers can be supplied according to need. Expert travelers should call upon the trade monthly all over the Empire. The best place for such a wholesale house, in my opinion, would be Berlin or Hamburg. I earnestly advise our shoe manufacturers to look over this field carefully.

JNO. F. WINTER,
Consul.

ANNABERG, *January 11, 1900.*

THE COAL FAMINE IN GERMANY.

It is now recognized that the prosperity of the iron and steel industries in Germany has become seriously jeopardized by the scarcity of coal, especially the qualities adapted to coking for blast-furnace fuel. This will inevitably restrict the pig-iron output of the current year, which during the final eleven months of 1899 increased to 7,406,171 metric tons, as compared with 6,740,379 tons for the corresponding period of 1898.

In the coal districts of the Saar and Upper Silesia, where the supply of good coking coals is always limited, attempts are now being made to utilize coals of inferior coking qualities by previously

stamping, with special machinery, the coke-oven charges. While this process does not produce good blast-furnace coke, it does produce a fuel that can be fairly well used for other metallurgical purposes, and thus reduce the demand for the precious coke of high quality.

In consequence of the shortening supply of pig iron, all other cognate materials have advanced in price, so that old iron now commands 81 marks ($19.27) per ton; lathe shavings, 76 marks ($18.08) per ton; and old rails, 107 to 112 marks ($25.46 to $26.65) per ton. All mills which manufacture hoop iron, girders, boiler and ship plates, and all kinds of structural iron are filled with orders and begging for more time for deliveries.

The situation has been aggravated by the extreme scarcity and high prices of coal—especially anthracite and gas coals—in Great Britain, which has for the moment practically cut off what has been hitherto an important source of supply for Germany.

These circumstances combine to form a new and important opportunity for the coal exporters of the United States. Letters are received at this consulate from importers of English anthracite and gas coals, complaining of the meager supply and high prices, and asking to be put into communication with American exporters of those grades. If, in addition to the enormous quantity of coal now being consumed in the United States, there remains any considerable surplus for export, and the conditions of freight are not prohibitory, the present season offers a rare and fertile opportunity to establish in the German market the standard grades of American anthracite and gas coals.

Germany imported during the first eleven months of 1899, 5,760,017 tons of anthracite and bituminous coals, of which 4,524,495 tons came from Great Britain; the remainder, from Belgium (547,732 tons), France (7,712 tons), Holland (107,627 tons), and Austria-Hungary (566,093 tons). For reasons which are obvious and likely to be more or less permanent, this large import from Great Britain is now seriously restricted; and the degree and duration of this restriction will form the measure of the opportunity which is now offered to the coal exporters of the United States.

FRANK H. MASON,
Consul-General.

BERLIN, *February 9, 1900.*

AMERICAN COAL FOR GERMANY.

In a recent report from this consulate* it was stated that there now prevails throughout Europe, and notably in Germany, a serious deficit in the supply of both anthracite and bituminous coal; that the ordinary large import from Great Britain into Germany is for the moment practically suspended, by reason of short supply and high prices; and that the present is therefore a favorable opportunity for the introduction of American coals into the German market. Each succeeding day during the past fortnight has increased the general deficit of fuel, and the situation has become critical and ominous for the manufactures and export trade of Germany. Numerous important glass, porcelain, and machine factories in Silesia and Saxony have been obliged to shut down for want of fuel; there are a dozen electric lighting and power plants in this country which have less than a fortnight's coal provision on hand and no source from which to obtain further supplies. Wood, brown coal, and other unusual forms of fuel are being used wherever possible as substitutes for coal, and the administration of Prussian State railways is said to have closed its contract for an immense coal supply at an advance of 42 per cent over the high price hitherto paid

From the best obtainable information, it is estimated that Great Britain, which exported to Germany about 5,000,000 tons of anthracite and bituminous coals during the year 1899, will not be able to spare for this country more than 2,000,000 tons during the present year; so that there will be a deficit of about 3,000,000 tons in the imports from that country alone, which will have to be filled from some other source. Failing to obtain such a supply, the production of pig iron, and consequently steel and all forms of manufactured iron, will be seriously reduced in Germany, and this unfortunate crisis comes at a time when most of the large steel works, foundries, shipyards, and machine shops of this country are filled with orders which will absorb their entire product for several months to come.

In Russia, the situation is equally urgent and critical. The enormous and rapid development of railways and certain manufactures in that country during the past three years has completely outrun the limited domestic coal supply, so that naphtha fuel, which has been hitherto largely used, has advanced in price from 4 to 19 copecks (2.06 to 9.8 cents), and the Russian Government has sought to ease the pressure by suspending for an indefinite period the usual prohibitory import duty of $2.80 per ton on coal. Even the Russian Government railways are said to be short of coal, and an agent has

* See preceding report.

been this week in Berlin vainly seeking to place an order for several hundred thousand tons for that purpose.

The principal wholesale agency here for Silesian soft coal—of the qualities used for steam and general manufacturing purposes—is now selling its scanty stock at 21 marks ($5) per ton, delivered at Berlin, and there is a general panic among coal dealers, who are unable to provide coal for their customers at any price and can see no encouraging prospect of obtaining their next season's supply. Offers are made of 17 to 18 marks ($4.04 to $4.28) for bituminous lump coal in lots of 10,000 to 20,000 tons, free on board at Hamburg, and this consulate is beset with inquiries as to the prospect for a new supply from the United States.

If, therefore, there is now available any important surplus coal in the United States, this would appear to be an ideal opportunity for American exporters to open direct relations with leading importers in this country and, by establishing their qualities of both anthracite and bituminous coals among consumers in Germany and other European countries, grasp the beginnings of a trade which, if properly managed, should grow into vast and permanent importance. If such available surplus is not on hand, it is because the export coal trade of the United States—like certain other branches of our foreign commerce—has yet to be properly organized and developed.

No one familiar with the facts can doubt that American coal of all kinds—anthracite, cannel, bituminous block and lump, and the high-grade gas and coking coals of Pennsylvania and West Virginia—are among the best in the world. But for all this, and notwithstanding coal at the pit's mouth in West Virginia has sold during the past year at 80 cents per ton; notwithstanding the cheap freights and large facilities for transporting minerals from the principal mining districts to the seaboard—the United States, which leads the world in this product and mined last year 218,335,000 tons of coal, exported only a bagatelle of 5,051,933 tons,* of which 3,631,761 tons were merely carried over the frontier into British North America, and the rest went nearly all to Mexico and the West Indies, countries which lie at our very doors.

On the other hand, Great Britain, with her deep and difficult mines and waning deposits, the extent of which is limited and definitely known, exported 36,546,152 tons of coal in 1898, valued at about $90,000,000, besides the vast amount supplied to steamers engaged in the foreign trade. The coaling stations in South America, Africa, the Mediterranean, and, to a great extent, in Asia are supplied with

*Note by Bureau of Foreign Commerce.—Mr. Mason's figures are for the fiscal year ended June 30, 1899. For the calendar year 1899, it is noticeable that exports of coal from the United States increased $3,000,000 in value, as compared with the previous calendar year.

British coal; and at each one of these points will now be felt the pressure resulting from high prices in the United Kingdom and the temporary absorption of a large part of British tonnage in transportation growing out of the war in South Africa.

It is not creditable to American enterprise that a country with such exhaustless deposits of superior coal as the United States, where it can be so easily mined and so cheaply transported to tide water, should export less than 3 per cent of its annual product, and most of this to a neighbor across its longest land frontier.

The subject of coal exports is, of course, intricately involved with that of a merchant marine. Great Britain has the colliers, both steam and sail, and they have hitherto carried her coal trade around the world. American coal operators, with all their advantages in respect to supply, cheapness of production, and local transport, have meanwhile been content to meet simply the needs of our own country. Some time in the process of development this anomalous situation must end in the case of coal, as it has already ended in respect to iron and steel, machinery, cotton goods, shoes, and other kinds of manufactured merchandise; and the present coal famine in Germany and other European countries should give a potent impetus to a new movement which will in time place the United States among the foremost coal-exporting nations of the world.

FRANK H. MASON,
Consul-General.

BERLIN, *February 15, 1900.*

SCARCITY OF COAL IN AUSTRIA.

A concurrence of circumstances affecting the supply of coal at Trieste, as well as the general coal trade of Austria, has suggested the compilation of the present report, which, I believe, will prove of interest to mine operators and exporters of coal in the United States.

Austria-Hungary produces only a little more than two-thirds of the quantity of coal which she consumes. In the year 1899, the total production in the Monarchy was 41,000,000 tons and the total consumption 58,000,000 tons.

The consumption of coal and coke at Trieste at present amounts to over 300,000 tons per annum. It has almost doubled since 1894, as the following figures will show:

	Tons.
1894	165,052
1895	191,054
1896	220,937
1897	262,007
1898	301,077
1899	310,781

The steam and gas coal used here comes chiefly from Great Britain and constitutes about 70 per cent of the entire supply. The remainder is furnished by the Austrian coast provinces of Istria and Dalmatia and the inland provinces of Styria, Bohemia, and Moravia.

The table below shows the quantities contributed by the various countries and provinces in 1898 and 1899:

Whence derived.	1898.	1899.
	Tons.	*Tons.*
Great Britain	201,825	190,320
Holland (coke of German origin)	8,505	36,808
Other countries	1,210	2,910
Austrian provinces:		
Istria and Dalmatia (inferior bituminous coal)	62,014	56,828
Styria, Bohemia, and Moravia (lignite and standard steam coal)	27,523	23,915
Total	301,077	310,781

The prices of British coal are, of course, much influenced by the prevailing rates of freight. These depend mainly on the prospects which vessels have of obtaining return cargoes. When, for instance, the wheat crop in southern Russia is a good one, British shipowners are willing to accept a low freight for Trieste, in the expectation that by sending their vessels from here to the Black Sea they may obtain remunerative wheat cargoes for British ports. Coal freights from Cardiff or Newcastle to Trieste have varied from 9s. to 13s. ($2.18 to $3.15) during the last two years. The latter rate was reached about two or three months ago and is largely, if not exclusively, due to the South African war.

The following table gives the average wholesale prices paid per ton at Trieste for the various kinds of coal during the year 1899, as well as the prices paid at the present writing:

Kinds of coal.	1899.		February, 1900.	
	Florins.		*Florins.*	
Cardiff	15.25	$6.19	23.40	$9.50
Newcastle	13.00	5.28	18.75	7.61
Scotch	12.50	5.08	18.25	7.40
Bohemian and Moravian	15.00	6.09	18.00	7.31
Istrian	12.00	4.87	15.25	6.19
Styrian	9.50	3.86	12.00	4.87
Dalmatian and Bosnian	8.50	3.45	10.50	4.26

The above prices, of course, indicate the relative commercial value of the various kinds of coal used here. As to the particular quality and character of each, it is to be noted that good bituminous steam coal coming from Bohemia and Moravia is about equal in quality to Newcastle—but not to Cardiff—standard steam coal. The Istrian product is very smoky and dirty, and the Dalmatian

contains so much sulphur that its smoke emits a very offensive smell. These latter varieties of coal are therefore used only by coasting freight steamers. Styrian coal is a lignite and is used for fuel only.

The coke consumed at Trieste for fuel is supplied by the local gas works, at the price of 23 florins ($9.33) per ton, delivered in any part of the city. The quality is fairly good when British coal is employed in the manufacture of gas; but when, as at present, the Austrian product is used, the coke is of a very inferior quality. It is dirty and slaty and generates but little heat.

There is at the outskirts of this city a blast furnace which imported last year 36,000 tons of coke from the Westphalian mining districts (in northwestern Germany). The coke is transported here by a rather circuitous route. It is carried on barges to Rotterdam, transferred there to ocean vessels, and then brought to Trieste. The freight from Rotterdam to Trieste alone is 13s. ($3.16) per ton on an annual contract. I have not been able to ascertain the exact cost of coke at the place of production or the freight thence to Rotterdam. There is, however, no doubt in my mind that this material costs the Trieste consumer no less than $12 a ton. The best English coke could not at the present time be laid down here for less than about $14 a ton.

The consumption of coal at Trieste has nearly doubled in the last six years, as shown in one of the above tables. This is chiefly due to the recent industrial development of the city, the beginning of which coincides with the abrogation of the free-port privilege. While the change has checked somewhat the free commercial intercourse of this port with foreign countries, the removal of the Austrian customs barriers has given an impulse to home manufacture. With continued industrial expansion, the consumption of coal will probably again be doubled in the next five years.

The Bohemian and Moravian coal mines, whose products are the only ones which can under ordinary circumstances compete here with foreign steam coal, are 650 miles distant. In 1899, the average price of coal at the said mines was 4.70 florins ($1.91) per ton. With the freight from the mines to Trieste at 10 florins ($4.06), the coal cost last year 14.70 florins ($5.97) per ton, laid down here.

The prices for such coal, however, are now considerably higher (see table) and quite irregular. A complete disorganization has taken place in the Austrian coal trade. Serious differences arose about a month ago in the various coal regions of the Empire between miners and their employers, and have resulted in a general strike, in which at present no less than 60,000 men in the mining districts of Bohemia, Moravia, and (Austrian) Silesia are involved. The rather radical demands of the miners and the meager concessions

which their employers have as yet seen fit to make are so far apart that it is difficult to foresee when and how the pending disputes will be finally settled; but it is almost certain that the end of the strike, when it does come, will mean higher wages and fewer hours of work. The industries of this country are laboring under great difficulties for want of coal due to this strike, and the effect of the present crisis will be felt by them long after work in the mines has been resumed.

In view of this state of things, and taking also into consideration the fact—too well known to need any special elucidation here—that a permanent rise in the price of British coal seems inevitable, I can not but believe that shipments of American coal to Trieste are practicable. In fact, at the present moment, when as high a price as 25 florins ($10.15) per ton can be obtained for the best bituminous coal, such shipments would be exceedingly profitable, even though from 20s. to 21s. ($4.86 to $5.10) per ton must be paid for freight.

The present juncture in the Austrian coal market affords the very best opportunity for introducing our coal. It is superior to any that has as yet found its way to Trieste; and a trial shipment would, in my opinion, pave the way for a regular trade in the future, when the markets have again resumed normal conditions.

I give below the names and addresses of the leading coal firms of Trieste:

Giuseppe Miklaucic, via Ghega 1.
Chierini & Modugno, piazza Negozianti 2.
Edmondo Forli, via Maiolica 8.
Medicus, Seskovic & Cie., via Valdirivo 7.
Marco Terni & Co., via Vienna 2.
E. Weiss & Co., via Ghega 3.

FREDK. W. HOSSFELD,
TRIESTE, *February 21, 1900.* *Consul.*

COAL MINERS' STRIKE IN SAXONY AND BOHEMIA.

The coal famine throughout this part of the country is making itself felt more and more every day. Even schools are beginning to close for want of coal. The winter thus far has been a hard one, and the price of coal for ordinary use has risen 25 per cent. If the strikes continue, the poorer class of people will suffer greatly. The industries of the Erzgebirge are fed principally by the coal mines of Bohemia, which produce a cheaper quality than those of Saxony. Soon after the strikes commenced, many of these industries were obliged to either reduce their forces or close entirely. Many factories have shut down in Plauen. A brush factory in Schönheide,

probably the largest of its kind in the world, giving employment to 3,000 workmen, must work on half time. The glass factories of the country suffer most. Those in the neighborhood of Görlitz have closed. Those in Carlsfeld shut down a week ago. The fact that yesterday the coal miners of Zwickau, in sympathy with those of Bohemia, decided to strike will make matters more acute, as this city is the great coal center of Saxony.

The miners of Bohemia struck for higher wages, for the eight-hour system, and for better conditions generally. At present, they earn 40 cents a day. Those familiar with conditions claim that on the whole the strikers are in the right. The miners of Saxony struck for the eight-hour system and to prevent coal from being sent from the mines of Zwickau across the border into Bohemia. At the same time, they demanded a better insurance safeguard against the dangers of their calling.

Just what the results of these strikes will be on the manufacture of goods, on the exports from Saxony to the United States, and in general remains to be seen. But if the strikers hold out for any length of time, many a manufacturer will be unable to fill his orders, and the poor people of the country will be brought face to face with distress and want, rendered more acute by the hardships of an unusually severe winter.

ERNEST L. HARRIS,
Consular Agent.

EIBENSTOCK, *February 15, 1900.*

Consul Hughes, of Coburg, under date of February 6, 1900, writes:

Owing to the strikes in the coal mines in Bohemia and Saxony, all the large and small manufactories of china, glass, toys, and dolls have had to cut down their productions to about one-third. Coming, as this does, at a time when all the different concerns are crowded with orders for the United States and England, it makes the outlook for prompt deliveries very poor.

Prices of all local goods are bound to go up. The various branches of the trades are having meetings to increase the cost for export, and American buyers will find products higher in price than they were last year and the delivery time much longer.

EXPORTS OF GERMAN COAL.

The Chamber of Commerce of Mannheim yesterday (February 20, 1900) sent a petition to the German Parliament (Reichstag) praying for the repeal of the tariff relative to exported coal. Attention is called to the increasing exportation of coal and coke. The statistical

tables show the following figures from 1895, inclusive, up to 1899, inclusive. The figures are for tons of 2,200 pounds.

Year.	Quantity.	Value.
	Tons.	
1895	10,700,000	$17,289,000
1896	11,600,000	21,500,000
1897	11,500,000	22,786,000
1898	13,600,000	29,714,000
1899	12,700,000	27,881,000

It is stated that the largest part of these exports is obviously for the purpose of enabling foreign industry to compete in the markets of the world with German manufactures, and has been to the advantage of all non-German Europe.

This so-called assistance of foreign competition is all the more keenly felt by the German industry as coal is scarce, and, while prices have advanced to exorbitant figures, it is asserted that, according to reliable information, German coal is sold in foreign countries at cheaper prices than in Germany.

While it is stated that no objections are raised to exportation of coal in times of little demand, such exportation at present, when many manufacturers are threatened with the prospect of shutting down for want of coal, is a damage to the entire German national prosperity, and a remedy is asked for as a pressing necessity.

RICHARD GUENTHER,
Consul-General.

FRANKFORT, *February 21, 1900.*

COAL FAMINE IN EUROPE.

The daily papers dilate upon the scarcity and extraordinarily high price of coal, coke, and briquettes (blocks of pressed coal dust). To the increasing demands from industrial works in Germany, as well as in other countries of the Continent, have been added the strikes in the coal mining districts of Bohemia, Saxony, Belgium, and France. The increasing scarcity has induced wholesale dealers to put their prices up so high as to cause violent protests from consumers, and the German coal syndicate of the Rhenish-Westphalian mining region has been compelled to issue a circular to the wholesale dealers in western and southern Germany who get their supplies from the syndicate. This circular says:

We receive every day well-founded complaints from consumers who have been old and faithful customers for our coal products that they are charged preposterously high prices by wholesale dealers who get their coal from us. Others also complain that these dealers, with whom they have made contracts for certain quantities with price and delivery stipulations, create artificial difficulties in their execution

of contracts or deliver smaller quantities. This syndicate requests that old consumers shall in all cases receive the quantities contracted for with you, and at no greater advance in price than is commensurate with the increased rate you pay us. We must further request you to stop the price extortions which are conducted through agents.

SIMON W. HANAUER,
Vice-Consul-General.

FRANKFORT, *February 24, 1900.*

MARKET FOR AMERICAN COAL IN FRANCE.

The coal famine that has existed in France and a large part of Europe during the present winter and the consequent high price of all kinds of fuel have called very general attention to the coal supply of the world. The situation is supposed to be due to the war in the Transvaal and the strikes in the French coal districts. It could also be attributed to the unexampled activity in the channels of manufacture, which one and all rest upon coal as their foundation and have been steadily increasing their consumption for the past decade. The governments of several European nations have been asked to take prompt action in the direction of protecting their mines. During the strikes in this country, the Minister of War was besieged to send men from the army to equip the idle mines, and the Government was requested to reduce the rates of transportation upon railroads. The first request was not complied with, but the second resulted in a reduction from the prevailing price of $2.40 per ton to $1.65 per ton for a haul from the Department du Gard, the Bouches-du-Rhône, and Cette to the city of Lyons, a distance of 357 kilometers (about 222 miles). An effort is being made to perpetuate this low price. If successful, it will mean that if the imports of American coal which recently arrived at Marseilles are followed by continuous shipments, they could be brought to Lyons, the largest industrial center in France after Paris, for $1.65 per ton.

The area of coal territory in France covers 636,199 hectares (1,572,048 acres). These coal mines are situated in the Departments of the Nord, on the frontier of Belgium; the Pas-de-Calais, immediately adjoining the Nord; the Loire, in the center of France, St. Etienne being its largest city; the Gard, in the southeast; the Saône-et-Loire, between the two rivers from which it derives its name, where the Creusot and other great metallurgical establishments are located; the Allier, in the center of France; and Auvergne, in the southeast. The men, women, and children employed in these mines number 125,000; their total wages amount to from 152,000,000 to 170,000,000 francs ($29,336,000 to $32,810,000).

The annual coal output of France is about two-thirds of its consumption. The railroads in France consume annually about

4,500,000 tons; the metallurgical establishments, 6,000,000 tons; the mining industry, 3,000,000 tons—over half the output.

France imports and exports coal. In 1898, the aggregate importations were 9,070,436 tons; in 1899, they were 10,467,420 tons. France exports coal to Belgium, Italy, Switzerland, Turkey, Egypt, and Algeria; her total exports with what is consumed on French ships amounting in 1898 to 1,320,616 tons; in 1899, to 1,229,090 tons.

It is asserted, but not authoritatively, that France can greatly augment her output of coal. The more general opinion is that the country will have to look for her coal supply to the United States and other lands, where there are rich mines yet untouched. Some of the French mines now worked are very deep and are often flooded. The cost of pumping, timbering, and bracing averages 15 cents per ton in France against 4 cents in England. The deepest coalpits in France are in the Gard, where the miners descend 800 meters (nearly 2,500 feet).

The coal supply is the most conspicuous topic of current discussion in the French press, especially in papers of an industrial or commercial character. The possibility of a supply from the United States is freely considered. As an illustration of the rapid growth in the demand, it is stated that the amount imported into Hamburg from German mines jumped from 717,000 tons in 1889 to 1,644,800 tons in 1899; and that the importations of coal from England to Hamburg during the same decade increased from 1,580,000 tons to 2,420,000 tons.

It is mentioned that if coal were brought to the Mediterranean from the United States, the steamers which bring it would find plenty of freight to carry back from Marseilles, Genoa, Naples, and other ports.

JOHN C. COVERT,
Consul.

LYONS, *February 13, 1900.*

FRENCH COAL INDUSTRY.

The present crisis in coal has given rise in the French Chamber to various propositions to relieve the situation. In the month of January, Mr. J. L. Breton proposed that the duty on foreign coal should be temporarily removed. The motion was referred to the customs commission and rejected in its report. Messrs. Basly, Lamcudin, and Des Retours have requested the Minister of Public Works to obtain from the Minister of War an order to return to their homes all young miners doing their military service, in order to insure the extraction of sufficient coal for industrial purposes. This request has not yet been granted.

In view of these circumstances, it may be of interest to compare the coal production of 1899 with that of the preceding year.

The official statistics of comparison have not yet been issued; but, as the statistics of 1898 are known, an approximate comparison may be made from figures for 1899 now at hand for this region. The two basins of the Nord and the Pas-de-Calais yielded 19,954,160 tons in 1898 and 20,533,673 tons in 1899 (approximate estimate), an increase in production of 579,513 tons in favor of 1899, if the estimate be correct.

Although the official returns of coal production are not yet at hand, the customs give the total importations and exportations of coal and coke.

The following is a comparative table of importations for 1898 and 1899:

Country.	1898.	1899.
Coal.	*Tons.*	*Tons.*
England	4,702,436	5,924,500
Belgium	3,642,738	3,769 290
Germany	717,737	764,820
Other countries	7,525	8 810
Total	9,070,436	10,467,420
Coke.		
Belgium	641,288	653,480
Germany	724,775	736,550
Other countries	22,125	36,580
Total	1,388,188	1,428,610

It will be seen that the importation of foreigr coal and coke has greatly increased, the total quantity of coal foi 1899 being 1,396,984 tons in excess of 1898, and of coke 40,422 tons.

If the miners of Belgium, Germany, and France succeed in securing the increase in wages and decrease in working hours now demanded, France will be forced to seek her coal and coke supply in other than home markets or manufacturers will have to change their system of heating, abandoning coal for oil.

This scarcity of coal should be taken advantage of by our coal men, as it would only require an effort to win their share of this business.

W. P. ATWELL,

ROUBAIX, *February 10, 1900.* *Consul.*

Consul Brunot, of St. Etienne, under date of February 19, 1900, sends additional statistics as to the production in 1898, as follows:

The production of coal, anthracite, and lignite in France for the year 1898, according to the latest official statistics, amounted to

32,356,000 tons, showing an increase of 1,558,000 tons, or 5 per cent, on the preceding year. The production remained stationary during four years (1890–1893), but from 1894 it steadily increased.

By reason of the rise in the price of the coal, the value of the fuel at the mouth of the pit rose to 363,000,000 francs ($70,059,000), against 334,000,000 francs ($64,462,000) for 1897. The average price per ton was 11.22 francs ($2.17), against 10.85 francs ($2.09) for the previous year. This rise after six or seven years of uninterrupted decline forms one of the characteristic features of the year 1898.

Of the 32,356,000 tons of combustibles extracted in 1898, 30,172,000 tons represented coal, 1,654,000 anthracite, and 530,000 lignite.

Two-thirds of the extraction was furnished by the important coal beds of the Departments of the Nord and the Pas-de-Calais, 3,913,000 tons by that of the Loire, 2,341,000 tons by those of the Bourgogne and the Nivernais, 1,974,000 tons by the Gard, 1,781,00 tons by the Tarn and the Aveyron, 1,123,000 tons by the Bourbonnais, and 464,000 tons by the Auvergne. An increased activity reigned in all the regions except in that of the Bourbonnais, where the coal bed is nearly exhausted.

The consumption of coal for 1898 was 43,295,000 tons, which showed an advance of 3.5 per cent. On the other hand, the importation presented a slight decrease.

The quantities of coal coming from England have exceeded for several years those coming from Belgium; while Germany, which furnished somewhat more coke than coal, came third.

The increase in extraction necessarily brought about an increase in the number of miners. That number was 148,600, or an advance of 5,200 over the preceding year. The wages, corresponding to 43,140,000 working-days, exceeded 182,000,000 francs ($35,126,000), representing on the average a daily wage of 4.23 francs (82 cents).

France does not furnish the twentieth part of the coal production of the world, which amounted to 660,000,000 tons for the year 1898. For that year, the statistics of the different countries stood as follows:

	Tons.
England	205, 287, 000
United States	199, 525, 000
Germany	130, 928, 000
France	32, 356, 000
Belgium	22, 088, 000

In England, no progress was reported for 1898; in Belgium, the increase attained 2.8 per cent; in France, as has been already stated, the increase was 5 per cent; in Germany, it amounted to 9 per cent; and in the United States, to 10 per cent.

EUROPE AND AMERICAN COMMERCIAL COMPETITION.

A recent article by George Wenlersse in the Grande Revue says, in part:

The danger is already at our threshold and is making itself felt. Brutal figures prove this fact most conclusively. A revolution which will change the commercial balance of power is taking place before our eyes. Until recent years, the Americans have been the best customers of European industries; they are now our competitors, and in very many branches have beaten us in the world's markets.

Mr. Wenlersse pays especial attention to the foothold which American manufactures have gained in the Far East. The United States has succeeded in flooding China and Japan with guns, leather products of all kinds, machines of every description, electrical motors, etc.

Gradually the Americans are pushing their way into the British colonies. The last railroad built in India has American rails. American manufacturers export their iron and motors, their machinery, and galvanic wires to Cape Colony. Egypt, too, has Philadelphia bridge builders on the scene. Three hundred railroad coaches have found their way from Jersey City into the land of the Pharaohs, and electrical tramways are forged in the foundries of Pittsburg to connect Cairo with the pyramids. Even Europe is not safe against the invasion of American goods. Russia, France, Germany, and Italy must pay tribute. England herself buys American locomotives, steel rails, paper ware, railroad coaches, and even coal. Sheffield, the home of the steel industry, has been dethroned by Pittsburg. It would be frivolity itself to remain indifferent to the expansion of this leviathan people.

We have reached our present position without special effort on the part of our manufacturers. Our export trade is in its infancy. How may we best focus our efforts to increase it? I believe this depends mainly upon two things—schools and ships. We must have industrial schools, wherein our young men may be thoroughly trained for their vocation in life. If a youth expects to become a manufacturer of cotton, he should learn all about cotton—whether it be a growth of his native country or of Egypt, India, or Caucasus. He must learn about picking, carding, spinning, and weaving. The same is true of the would-be manufacturer of wool, iron, and steel. Germany's success as a commercial nation is to be attributed directly to her schools. The lad of Eibenstock who proposes to be a merchant divides his time between some business house and the industrial high school. There are schools all over the Empire for boys in the lowest ranks of life; schools for the coming locksmith, shoemaker, blacksmith, etc. If it pays Germany to educate her laborers

to manufacture products from imported raw material, what could we not accomplish through training schools with the raw material at hand?

As to ships, 91 per cent of the freight from the United States is carried in foreign bottoms. If the English or German steamship lines are compelled by any chance to divert a number of vessels from the trans-Atlantic traffic, loss will be incurred by our exporters of cotton, grain, etc. The more steamship lines the cheaper the freight. To-day, ships may be built at Bath, San Francisco, Philadelphia, Wilmington, Chester, and Newport News as cheaply as anywhere in the world.

ERNEST L. HARRIS,
Consular Agent.

EIBENSTOCK, *January 24, 1900.*

SUPERIORITY OF AMERICAN MANUFACTURES.

There have recently been a number of communications and articles in the Liverpool papers drawing attention to the fact that American manufactures, particularly in specialties, had been accepted by English purchasers in preference to those of home production, the reason given being that the American goods were better made and handier than the home goods and were fully as cheap. Of late, there has been a tendency on the part of English critics to claim that American manufactures were preferred simply because they were cheap, and it was often added they were "nasty" as well as cheap. The statements referred to at the commencement of this report refute this criticism, and American manufactures can now find plenty of champions in England who base their support on the ground of actual superiority, both of workmanship and adaptability. This concession has just been significantly emphasized by the publication in semiofficial form of the following letter received by the Liverpool Chamber of Commerce from a well-known business man:

I desire to submit for your consideration a summary of the observations which I have made during my close association with colonials for a period of seven years spent in Africa, Australia, and Canada, and during a brief visit to the States.

I have found that American and German manufacturers are gradually ousting us from all these markets. This truth, irrefutable from statistics, is scarcely appreciated at a time of world-wide prosperity, but it will make itself unpleasantly obvious when the inevitable reaction sets in. I find that throughout the countries I have named there is a universal complaint—

"You English will not make your goods to suit our markets. You send your samples and tell us to take them or leave them—you don't care which. If we ask you to alter things, you either refuse to do it or else you demand prohibitive prices.

Germans and Americans, on the other hand, care for and ascertain our requirements, and then supply our needs at reasonable prices. Furthermore, we are in closer touch with the actual producers of American and German goods. English goods go through too many hands."

In every case I have made much careful inquiry and comparison, and I find that the German and American goods actually fetch better prices than English goods supplied for similar purposes. The reason is that the former are generally either better or more tastefully finished, and are often more appropriate for the purposes for which they are made.

I find that even near home similar conditions obtain. Only last week I went into a commercial sample room in Stoke-on-Trent and saw a display of American and German "Birmingham" ware. The traveler answered my inquiries in words almost identical with the above. Further, gentlemen, I would impress upon you that the relative influence of the foreign element in our markets has most perceptibly increased with each year during the last seven years; but, be it noted, we are not undersold, but only outclassed. From a careful study of the position, I am confident that nothing but prompt measures will prevent irreparable damage. And, on the other hand, I am equally confident that by judicious and immediate action not only may the insidious progress of our competitors be stayed, but the lost ground may even be regained. That this is feasible needs no proof if my hypothesis be accepted. What is chiefly needful is a wise, intimate acquaintance with the needs of our customers and an absolute knowledge of the tactics of our competitors.

The present is a fitting moment to make thorough investigation of the condition of our trade, and I venture to submit for your consideration a method of inquiry. Let suitable persons be appointed to travel throughout not only the Empire, but the world. Equip the men so chosen with ample discretionary powers and with funds with which to purchase samples of every class of goods of foreign manufacture. Let them trace each article to its source and make a concise report under the following heads: (1) Retail price; (2) wholesale price at distributing center; (3) wholesale price at place of manufacture; (4) import duty; (5) cost of shipment and expenses of transit; (6) number of intermediaries or middlemen; (7) suggestions as to suitability or otherwise for the purpose intended, and general remarks.

Let them also purchase similar articles of English manufacture and report likewise. The two samples should then be sent for exhibition to the center of the industries affected. A shrewd man, too, might make most valuable suggestions as to future trade and local requirements.

One of the many causes operating to our disadvantage is that English merchants frequently overlook the immense distances from railway communication of many of our colonial markets—so great are they that often the freight exceeds the value of the article. Germans and Americans study this and make their goods lighter, but equally suitable, and consequently more salable.

JAMES BOYLE,
Consul.

LIVERPOOL, *February 15, 1900.*

COMMERCIAL AND INDUSTRIAL CONDITIONS IN SWITZERLAND.

AMERICAN GOODS.

Four years ago the reader seldom found the subject of American exports treated in the columns of the Swiss press, but he now finds a quantity of very interesting reading upon the subject. One can now buy American watches in Berne, although Chaux-de-Fonds, the great Swiss watch center, is not far from that city. One can buy American ham and bacon in Basel and elsewhere, and the Swiss cavalry horse will be found sleeping on American straw. But few well-regulated hardware stores exist in Switzerland which are unable to fill their show windows with the attractive-looking and solidly made American hoes, spades, axes, saws, hammers, locks, and the like. In the larger cities there are always shoe stores containing American shoes, which have a popular demand. American office desks have a good sale and are the envy of all who are compelled to use the old flat-top article. Everywhere are striking evidences of the increased export of American wares, and the prominence thus being gradually won has led to much newspaper discussion—a free advertisement of the increasing popularity of United States goods.

AMERICAN DRIED AND GREEN FRUIT.

The Swiss Government has modified the decision of July 14, 1898, and February, 1899, prohibiting the introduction of American dried and green fruit into Switzerland, and will now admit it, subject to an expert inspection on the Swiss border, at Basel. As our dried fruit was once very popular in Switzerland and as nothing has been introduced to take its place, I am satisfied that, with reasonable care on the part of our exporters, this excellent article of consumption will once more find a profitable market here. As to green fruit, I doubt whether, under prevailing conditions, it can be sold in this country. An American residing in Switzerland recently ordered a barrel of American apples (Rhode Island Greenings) from a shipper in Hamburg. The barrel was shipped and detained at Singen by the customs authorities. After appeal to the Swiss Government, a permit was granted allowing the apples to enter Switzerland, but by the time they reached the purchaser they had cost 50 francs (nearly $10), in addition to which over half of the apples were ruined by delay, exposure, and decay.

INCREASE IN SWISS EXPORTS.

Switzerland is cheerful over the result of its exports to the United States last year. The total for the year was $17,234,803.39, an increase of $3,375,428.39, or 20 per cent, over 1898. Of this increase embroideries, silk goods, watches, and aniline colors had the lion's share. Embroideries showed an increase of $2,600,000; silk goods, $293,504; watches and other timepieces, $230,680; aniline colors, $105,096; cheese, $20,000. Condensed milk showed a decrease of $16,067. As so much has been said recently about the introduction of American timepieces into Switzerland, the Swiss press is especially pleased with the fact that the Swiss export to the United States has shown a marked increase in this line. Considerable notice is taken of the fact that church articles have fallen off 75 per cent in export to the United States.

ITALIANS IN SWITZERLAND.

It is claimed that 100,000 Italian laborers, skilled and unskilled, find employment in Switzerland, 90 per cent of whom come into the country in the spring and return in the fall. For endurance, industry, sobriety, and economy the Swiss affirm that the Italians excel all other laborers; but it is claimed that when the labor season is over they return across the border to their homes and spend their earnings in the Italian markets. It is estimated that these laborers take to Italy every fall an average of 200 francs per person. This would make an annual total of 18,000,000 francs ($3,474,000), or 6 francs per capita for the entire Swiss population. This is nearly two-thirds of the per capita ground, poll, fortune, and income tax for the entire country, which amounts to over $5,500,000 annually.

COMPARATIVE STATISTICS OF POPULATION.

Next to France, Switzerland seems to have had a smaller percentage of births over deaths in 1898 than of any other country in Europe. France, with a population of 38,000,000, had 843,933 births and 810,073 deaths, or an increase in births over deaths of eight-tenths of 1 per cent of the population. Switzerland had 29 births against 18 deaths in every 1,000 inhabitants; England, 11½; Germany, 15; Russia, 14; Belgium, 11½; Italy, 13; Austria, 12; and Hungary, 12. There were 8.1 marriages in Switzerland in every 1,000 inhabitants; in France, 7.5; in England, 15.2; in Germany, 8.4; in Russia, 8.6; in Belgium, 8.2; in Italy, 7.3; in Austria, 8; in Hungary, 8.2. From 1870 to 1898 the population of Switzerland increased 370,000; from 1876 France increased 1,500,000; Germany has gained 10,000,000 since 1875; England, 6,000,000 between 1871 and 1891; Belgium

gained 1,242,000 between 1866 and 1890; from 1869 to 1890 Austria gained 3,500,000 and Hungary 2,000,000; since 1882 Italy has increased 5,000,000. In Switzerland there are 73.2 inhabitants to the square kilometer (247.1 acres); England has 120; Germany, 96.7; Russia, 49.9; Belgium, 206; Austria, 79.6; Hungary, 54.2; Italy, 110.5; and France, 71.8, or the third lowest of the European powers, Russia and Hungary having less than France.

PRICES IN 1899.

The price of breadstuffs was 6 per cent less than in 1898; meat and butter were 3 per cent higher; sugar, coffee, and tea, 2 per cent higher; products of the mines, 30 per cent higher; textiles, 43 per cent higher; raw materials, 9 per cent higher. In 1898 the prices on textiles and mine products began to advance, gaining 3 per cent and 14 per cent, respectively, over those of 1897. Iron and zinc are higher than they have been since 1874. In 1887–88 copper and tin were slightly higher than now. In cotton cloth there has been a great increase, owing to the enormous demand and reported short crop of cotton. The embroidery manufacturers who purchased last spring have a great advantage over those who are compelled to purchase at present prices. It is doubtful whether Switzerland has had a more prosperous year in the last two decades than 1899.

COFFEE CONSUMPTION.

Coffee drinking is increasing at a rapid rate throughout the world, and Switzerland has shared in the increase. In 1830, only 120,000 tons of coffee were produced. In 1899, the estimated production was 1,250,000 tons. The annual coffee importation into Switzerland amounts to 21,000,000 francs ($4,053,000), which, among a population of about 3,000,000, would be an average of about 7 francs ($1.35) per individual.

SWISS POSTAL CARDS AND PENALTIES.

Switzerland uses more postal cards in proportion to its population than any other nation in Europe. In 1898, 35,292,849 postal cards were mailed in Switzerland, or 11 to each inhabitant during the year. In Germany, 639,910,700 were mailed, being 9 to each inhabitant. If we should, however, add the great tourist element to the Swiss calculation, the amount per capita would drop to 8, making Germany the greatest consumer in the world. Swiss postal-card statistics are obtained as follows:

Four days of the lightest season (February) and three days for the heaviest season (August, when Switzerland is overrun with tourists) are taken for the count, one Sunday being included in

these seven days. The result of this count is multiplied by 52 and the approximate result obtained. The international size must not exceed 9 by 14 centimeters (3½ by 5½ inches). Government cards and view cards require the same postage. Local postage is 5 centimes (1 cent); foreign, 10 centimes (2 cents). The penalty for insufficient postage is double the amount lacking.

In my inspection of the United States consulates in Switzerland I have found that about 10 per cent of the entire postage account for the six consulates and agencies is caused by the consuls being compelled to pay postage penalties on letters mailed to their offices. The carelessness of persons addressing the American consuls in not putting the proper postage on their letters is costing the United States Government quite a sum each year. On the other hand, some persons put on too much postage. This office has received printed documents from public sources and private persons carrying twice, and in some instances ten times, the necessary postage.

SWISS ORIENTAL TRADE.

It is difficult for Switzerland to ascertain just what quantity of her manufactured products is exported to the Orient, because these products are purchased by large export houses at the seaports of Germany, England, and France and billed from these places to their destination. It is, however, a fact that the enterprising Swiss exporters have been actively engaged in this oriental trade for years, and it is believed that of the $140,000,000 worth of products exported to foreign countries in 1899, a sufficient part of it went to China, Japan, and the Philippines to give Switzerland a fair proportion of the much-sought-for trade of the East. Statistics for 1897 show that the exports to China, Japan, and the Philippines amounted to $2,269,488, of which more than $1,000,000 was in gold, silver, and nickel watches, while $133,720 was in machines and locomotives, and $2,152,322 went to India. The balance of the exports was principally ribbons, broad silks, laces, and embroideries. To India was exported $185,366 worth of watches of different kinds, $295,496 in condensed milk, $141,779 in cutlery, $194,000 in embroideries and laces, $600,000 in colored cotton goods of different kinds, and $120,000 in silk goods.

The principal imports of Switzerland from these countries were: Dried berries for dyestuffs, $56,437; rice, $100,000; tea, $209,600; silk scrapings, $236,624; grège (raw silk), $3,567,319; silk goods, $148,325; straw and straw goods, $19,096; jute, $4,656. The total of imports is $5,737,167, showing a balance of trade against Switzerland of $1,314,457. Switzerland has caught the oriental-trade fever, and the press of the country is urging the Government and the exporters to commercial activity.

GERMAN PUBLISHING COMPANY IN CHINA: SEWING MACHINES.

Announcement is made in the German trade papers that a German printing company in Shanghai, which employs only Chinese as typesetters, offers to print catalogues in the Chinese language at very cheap prices. Thus the great commercial world of Germany can get catalogues printed cheap by Chinese labor and enlighten Chinamen of the nature of all things German, even to the sewing machine.

The Americans introduced the first sewing machines into China after great difficulties and taught the Chinese their use, and to-day in the flourishing cities of Shanghai, Hongkong, and even in Pekin the tailoring establishments are benefited by them. The American was the sewing-machine pioneer in China; but, unless he is vigilant, the restless Teuton will occupy the market, for the American machines are being closely imitated by the German manufacturer, only the German make is as plain, simple, and cheap as possible. To send highly finished and expensive machines to China at this stage, and in face of the German cheap competition, will be a mistake. The wives and daughters of rich Chinamen may now and then demand an expensive machine; but the masses will only accept a cheap and very simple article, solid, easy moving, and low priced, a machine that operates by hand and whose parts are so simple that the watchmakers can repair them when out of order. Watchmakers do this work in the Orient. The machine should be operated by hand, because the crippled feet of the Chinese woman are not good motors. Besides, a pedal machine costs more, and the packing and freight to China is about $2 more than for the hand machine. Each machine should be accompanied by duplicates of breakable parts and a small pamphlet, in the Chinese language, describing the manner of using and caring for the machines, such as oiling, cleaning, etc. The right kind of a sewing machine has a great field in China, and the firm that can produce it and place it at a low price in the Chinese market will get the trade. The establishment of a large commission house with branches in the different commercial centers of China is now contemplated by the German firms interested in this industry.

When it is realized that China took from foreign nations in 1897 goods to the amount of $161,723,900, of which the United States furnished only $9,703,435, or about 6¼ per cent, it must be apparent that our country is not getting its share of this important trade, even though our exports increased to $12,254,620 in 1898. England, Germany, and France have appointed commissioners to investigate thoroughly the demands of the Chinese markets, and how best to meet them in detail.

THE SWISS SCHOOLS.

The Swiss schools are divided into primary and secondary. There are 3,551 districts in Switzerland for the primary schools, which are attended by children between the age of 6 and 12 years; and there are 500 districts for secondary schools, which are attended by 34,755 students; while the primary schools have an attendance of 479,254. The teachers in the primary schools number 9,765, of which 6,395 are male and 3,370 are female. This gives an average of 49 children to each teacher. Thus, over one-sixth of the entire Swiss population is in attendance at the primary schools. The average salaries per week for teachers in cities is $6.50; in the country, $4. The high-school teachers average about $12 per week.

THE SWISS ARMY.

There are 147,191 members of the active military force of Switzerland, divided as follows: General staff, 66; infantry, 108,309; cavalry, 4,245; artillery, 21,355; engineer corps, 5,913; ambulance corps, 5,127; quartermaster's department, 1,607; military court, 48; other branches, 519. The first reserves have 83,283 men and the second 271,780, the total being 502,254 men which Switzerland can put in the field in case of invasion.

TAXES.

The ground, per capita, fortune, and income taxes of all the Cantons in 1897 amounted to $5,735,168, or nearly $2 for each individual. The taxes per capita have increased 44 per cent since 1888.

HOSPITALS FOR LUNG DISEASES.

There is a national movement in Switzerland looking to the establishment of hospitals for the treatment of lung diseases. Already there are hospitals at Leysin, Heiligenschwendi, Davos, Bronnwald, Faltisbergwald, and Malvillers. The number of beds is at present nearly 400. The principal cure is fresh air, rain or shine.

DEMAND FOR COAL.

Switzerland does not produce enough coal to keep three small steamers moving over the Lake of Zurich during the year, and yet Switzerland is making steady advances in many industries, all of which need more or less coal. Every year Germany sends 900,000 tons to Switzerland, and France 210,000 tons. Belgium sends about the same quantity, and the rest comes from Austria and England. At present there is a great strike in Austria, with others threatened elsewhere, and a coal famine has arrived just as Swiss industries have entered upon an era of prosperity heretofore unknown. According to population, Switzerland uses annually about 1,000 pounds

of coal per capita, as compared with 4,200 pounds in Germany and 9,200 in England. It is earnestly urged now that coal should be stored in Switzerland, so as to bridge over any possible coal famine in the future, as soon as the present emergency has passed. There is now over $2,000,000 worth of wheat and horse fodder secured for military purposes in the Government storehouses.

THE AMERICAN WATCH IN SWITZERLAND.

The American watch case is having a field day in the "Land of Watches." So large is the importation of these cases into Switzerland that a general movement among the Swiss watchmakers is now taking place to prevent, or at least modify, the importation if possible. A committee of watchmakers has been formed to improve the present system of watch making so as to keep the good name of the Swiss watch intact in the foreign as well as the home markets, where American competition is being seriously felt. Prizes of considerable value are to be offered to those who succeed in making any improvements which may be of advantage to the export trade. As watch making is the industry in which the Swiss have made a great reputation in all countries, it is natural that they should be startled by successful competition from America.

JAMES T. DUBOIS,
Consul-General.

ST. GALL, *February 1, 1900.*

COTTON INDUSTRY OF ITALY.

The growth of the Italian cotton industry has caused a corresponding increase in the importation of the raw material, and, as the greater percentage of this comes from the United States, the following notes and statistics—taken from the most excellent work on Italian exports by Dr. Leopoldo Sabbatini, secretary of the Milan Chamber of Commerce, and just published—may prove of interest.

In 1871 there were only 10,500 tons of raw cotton imported into Italy. In 1881 this had increased to 48,500 tons; in 1891, to 92,600 tons; and in 1898, to 132,900 tons. This increase in the importation of raw material and the building up of the Italian cotton manufactories has necessarily caused a decrease in the importation of manufactured goods and even developed the export of cotton manufactures. The import of spun cotton, from a maximum of 13,600 tons in 1876, has been gradually reduced to about 700 tons.

The imports of cotton textiles were quite extensive until 1887, averaging about 11,090 tons per year from 1871 to 1880, and about 13,200 tons annually for the succeeding seven years. In 1888, owing no doubt to the new customs duties, the importation of cotton textiles fell to about 7,100 tons and kept at that amount until 1891,

when the home production was better able to meet foreign competition, and the imports were gradually reduced to 1,700 tons in 1898.

There had been a slight exportation of cotton manufactures before 1888, but it is only since 1894 that the exportation has exceeded the importation, as will be seen from the following table:

Year.	Spun cottons, excess.		Cotton textiles, excess.	
	Imports.	Exports.	Imports.	Exports.
	Tons.	*Tons.*	*Tons.*	*Tons.*
1885	7,183.1	.....	12,541.8	.....
1890	2,505.8	.....	6,048.4	.....
1893	556.2	.....	2,608	.....
1894	.....	85.7	.....	432.6
1896	.....	576	.....	1,364.2
1897	.....	2,746.9	.....	3,982.1
1898	.....	6,173	.....	10,149.6

The average exportation of spun cotton from 1871 to 1875 was scarcely 20½ tons per year, while from 1876 to 1880 it was about 152 tons per year. In the following five years the exportation decreased to about 100 tons per year; but from 1886 to 1890 it took a jump to 310 tons, and from that time on increased as follows: Six hundred tons in 1892, 700 tons in 1893, 1,100 tons for the years 1894 and 1895, 1,550 tons in 1896, 3,650 tons in 1897, and 7,900 tons in 1898.

The development of the export of cotton textiles has been from an average of about 135 tons from 1871 to 1875 to an average of some 375 tons per year for the following decade. From 1886 the exportation increased slowly until 1891, when it reached 1,200 tons. In 1892 it went to 2,150 tons; in 1893, to 2,850 tons; in 1894, 3,100 tons; in 1896, 6,060 tons; falling back in 1897 to 5,280 tons, and reaching 11,900 tons in 1898.

In consequence of the growth of the Italian cotton industry, the following tables are of interest, as showing the various kinds of cotton yarns that enter into the importations and exportations:

Importation of spun cotton.

Description.	1870.	1875.	1880.	1885.	1890.
Single threads:	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Unbleached	4,397.5	7,060 9	2,057.2	2,034.2	927.6
Bleached	*1,234.9	*1,551.7	195.7	316.5	50.6
Dyed			109.1	231.8	118.3
Twisted threads:					
Unbleached	1,932.9	3,328.8	2,218.2	3,096.2	765.5
Bleached	.....	.....	735.7	1,179.3	459.2
Dyed	.....	.....	163.9	280.4	70.5
Warps	.....	.....	291.1	544	65.5
Sewing thread	.....	.....	.....	.....	334.1
Total	7,565.3	11,941.4	5,770.9	7,682.4	2,791.3

*These amounts include the twisted threads also.

Importation of spun cotton—Continued.

Description.	1895.	1896.	1897.	1898.
Single threads:	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Unbleached	440.5	242.6	190.3	97.8
Bleached	23.5	23	26.1	21.6
Dyed	25.4	35.4	32.4	26.2
Twisted threads:				
Unbleached	331.5	110.5	119.5	118.5
Bleached	65.5	51.4	43.2	25.3
Dyed	110.7	127.8	124.2	115
Warps	3.8	1.1	1.9	1.8
Sewing thread	360.6	363.5	373.6	314
Total	1,361.5	955.3	911.2	720.2

As may be seen from the above table, the importation of unbleached spun cotton, formerly quite large, was by 1898 reduced to a very small amount. On the contrary, the importation of twisted cotton and sewing thread has not decreased to any extent since 1890. The finest of these are still imported, especially from England, as the Italians do not seem to be able to produce them yet, at least in any appreciable amounts.

Exportation of spun cotton.

Description.	1870.	1875.	1880.	1885.	1890.
Single threads:	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Unbleached	22.1	13	29.4	2.1	18.1
Bleached	*12.3	*15.1	1.5	29.5	72.3
Dyed			78.5	30.1	32.4
Twisted threads:					
Unbleached	1.5	0.2	8.4	3.1	10.2
Bleached			0.6	11.7	17.1
Dyed			33.4	22.7	116.1
Sewing thread					27.3
Total	35.9	28.3	151.8	99.2	293.5

Description.	1895.	1896.	1897.	1898.
Single threads:	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Unbleached	197.8	322.7	1,327.7	5,329.4
Bleached	115.2	165.4	259.7	246.4
Dyed	268.8	422	877.8	914.7
Twisted threads:				
Unbleached	32.4	68.9	178.6	253.8
Bleached	80.1	116.9	91.2	100.8
Dyed	375.7	438.9	912.4	1,037
Sewing thread	15.2	6	8.9	14.2
Total	1,085.2	1,540.8	3,656.3	7,896.3

*These amounts include the twisted threads also.

Here there is an increase in exports all along the line, excepting in warps and sewing thread.

Importation of cotton textiles.

Description.	1870.	1875.	1880.	1885.	1890.
Plain textiles:	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Unbleached	2,418	4,033	2,461.1	3,724.8	1,216.1
Bleached	2,078	2,813.5	2,120.9	3,024.4	1,929.4
Dyed	1,370.4	2,111.3	1,681.3	2,771.2	1,276.2
Printed	2,925.8	3,532.8	2,704.4	3,165.5	2,530.7
Other textiles:					
Brocades					3.1
Embroidered	36.9	60.4	44.9	38.5	28.2
Velvets	203.4	231.2	138.1	444.2	210

Description.	1895.	1896.	1897.	1898.
Plain textiles:	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Unbleached	1,035.6	344.5	252.1	152.9
Bleached	593.6	430.4	401.5	334.6
Dyed	539.6	426.8	422.7	387.9
Printed	1,137.9	714.9	556.1	448.5
Other textiles:				
Damask	261.9	178.1	159.8	130.2
Brocades	2.5	4.3	8	3.6
Embroidered	31.1	24.1	25	35.7
Velvets	172.5	141.5	161.7	195.6

The importation of the plain cotton textiles has decreased to a marked extent; but that of brocades, embroidered textiles, and velvets, though of not much importance, has remained nearly stationary.

Exportation of cotton textiles.

Year.	Plain textiles.				Textiles.		Velvets.
	Unbleached.	Bleached.	Dyed.	Printed.	Damask.	Embroidered.	
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
1875	6.6	12.1	137.6	26.5	.....	4.5	0.1
1880	49.8	21.8	400	17.7	.....	9	0.5
1885	13	20.2	239.6	6.5	.....	3.3	1.4
1890	14.3	55.5	848.4	13.7	.....	1.4	0.1
1895	67.8	177.2	4,109.3	350.1	261.2	1.2	0.6
1896	407	231	4,604.3	508.2	302.2	3.9	0.9
1897	522	238.1	4,168	568.5	318.6	0.2	0.2
1898	1,033.7	305.7	8,038	954.1	376.4	0.2	1.4

This table shows that the exportation of plain dyed textiles has increased more than any other; it increased nearly fourfold from 1890 to 1895, remained about stationary from 1895 to 1897, and then almost doubled. The exportation of the printed and unbleached plain textiles has also increased, while that of the bleached goods has remained unimportant. The export of embroidered textiles seems to have fallen off from the very small amount it attained in 1880, and that of velvets is of no account whatever. Italy does not seem able as yet to take a prominent position in the manufacture of these goods.

Importation of raw cotton and countries of origin.

Year.	North America.	India.	Egypt.	All other.	Total.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*
1894	54,328.6	38,138	16,641	10,566.2	119,673.8
1895	67,343.7	27,488	4,613.5	8,017.6	107,462.8
1896	71,448.7	31,094.5	3,716.8	6,489.6	112,749.6
1897	72,023.9	29,671.9	6,765.4	11,786.5	120,248.7
1898	93,055.9	25,072	6,222.5	8,508.4	132,858.8

It will be seen from the above that the importation from India and Egypt is decreasing, while that from the United States is increasing.

Importation of spun cotton and cotton textiles and countries of origin.

Year.	Great Britain.			Germany.		
	Spun.	Textiles.	Velvets.	Spun.	Textiles.	Velvets.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
1894	501.2	1,851.6	86.2	191.6	528.4	41.2
1895	802.4	2,328.5	98.2	214	554.8	56.7
1896	426	420.9	71.1	225.8	498.1	52.1
1897	381.5	905.9	62.3	249.4	468.1	74.1
1898	323.8	713.2	84.7	217.2	426	67.3

Year.	Switzerland.			Total importation.		
	Spun.	Textiles.	Velvets.	Spun.	Textiles.	Velvets.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
1894	240.7	483.1	1.1	1,001.4	3,124.3	143.6
1895	293	492.6	1.8	1,301.5	3,653.8	172.5
1896	259.8	319.9	2	954.8	2,165.1	141.5
1897	204.6	302.3	2.5	911.2	1,875.4	161.7
1898	128.5	228.8	1.3	720.2	1,550.2	195.6

For spun cotton and cotton textiles Great Britain, Germany, and Switzerland supply the demand, and there seems to be nothing of any account from the United States.

Following is a table showing the principal countries to which Italy exports:

Exportation of spun cotton from Italy, 1893–1897.

Year.	Plain spun and twisted cotton, unbleached and bleached.					
	Turkey.	Argentine.	Brazil.	Roumania.	All other.	Total.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
1893	31	59	6.3	27.2	67	190.5
1894	64.5	140.7	17.4	22.8	159.9	405.3
1895	46.5	173.4	51	69.6	85	425.5
1896	109.6	214.7	33.6	125.7	190.3	673.9
1897	661.8	468.1	27	261.6	456.7	1,857.2

Exportation of spun cotton from Italy, etc.—Continued.

Year.	Plain spun and twisted cotton, dyed.					
	Turkey.	Argentine.	Brazil.	Roumania.	All other.	Total.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
1893	255.3	127.3	19.6	0.8	97	500
1894	338.3	86.7	186.4	6.3	189	806.7
1895	266.8	71.9	251.6	18.1	108	716.4
1896	221.2	174.7	358.3	19.1	107.3	880.6
1897	488.5	691.4	475.9	6.1	129.8	1,791.7

The export of cotton textiles is chiefly to Central and South America, especially to the Argentine Republic.

Exportation of textiles and other cotton manufactures.

To—	1894.	1895.	1896.	1897.	1898.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Central and South America	3,171.9	4,241.1	4,643.6	3,499.6	7,731.2
Turkey	548.7	615.7	692.5	1,574	1,691.5
Africa	187	164.4	290	460.5	781.2
Other countries	493.4	552.3	1,158.7	1,231	1,691.5
Total	4.401	5,573.5	6,784.8	6,765.1	11,895.4

Exportation of cotton textiles in 1897 and countries of their destination.

Country.	Smooth unbleached textures.	Bleached textiles.		Dyed textiles.		Printed textiles.	
		Smooth.	Woven design.	Smooth.	Woven design.	Smooth.	Woven design.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Argentine	139	149.3	5.6	1,804.8	58	202.8	4.4
Turkey	178.5	11.6	0.8	906.4	137.1	79.9	.....
Central America	1	7.1	.....	211.2	2.3	38.7	0.9
Chile	.....	5.2	0.4	161 8	4.5	10.8	0.2
Peru	1	8.8	.....	127.5	3.7	6.6	.....
Egypt	.....	3	1.3	114.8	65	19.9	.....
Brazil	.....	4.5	.....	113.8	6.5	6.7	.....
Red Sea countries	6.3	1.2	.....	3.4	.....	0.7	.....
Australia	.....	.....	.....	37 7	.....	8.2	.....
Austria	1.5	6.3	.....	139.4	3.6	18.4	.....
Switzerland	168	13.2	1.3	86.1	1.2	18	.....
Other countries	26.7	27.9	1.6	461.1	19.8	154.6	0.4
Total	522	238.1	11	4,162	301.7	565.5	5.9

WM. JARVIS,
Consul.

MILAN, *January 20, 1900.*

TILES AND MOSAICS IN VENICE.*

The tile and mosaic industries of Venice and the surrounding region are not carried on by the same parties or in the same manner. In any study of their manufacture they must therefore be considered separately. It should also be borne in mind that while Venice enjoys a high and deserved reputation for her arts of mural and pavement decoration, that reputation is for the most part of the past. It is true that the mosaics of modern Venice are to be found now in nearly every city of importance; but this is largely due to the traditions of Venetian glass making. Their secrets of producing color and effect the Venetians will not divulge; but in the matter of methods of manufacture and business our own manufacturers have nothing to learn from Venice.

Directing attention first to the mosaic industry, it must be remembered that that industry is one bordering so closely upon the arts that its processes bear little relevancy to common methods of manufacture. There are in this city two important houses concerned with decoration by mosaic—the Società Musiva Veneziana, 2195 San Polo, and the Compagnia Venezia-Murano, Campo San Vio. Of these, the former devotes itself exclusively to decoration. The material employed is the Venetian vitreous mosaic, obtained by the Società Musiva Veneziana from the glass factories of Murano. Thus the company has nothing to do with the manufacture of the mosaic itself, and does not deal in mosaics as commercial products. The intention of the company is to supply decoration for walls and ceilings, designs and work being done in Venice and the product being shipped in convenient parts to the point of destination. Prices are given f. o. b. Venice, as the mosaic is so put up that any architect can oversee its disposition on the space he wishes to cover.

It is naturally out of the question to give definite prices for work of this nature, varying so widely in the amount of mechanical labor employed and requiring in its more elaborate phases the talent of artists. But the director of the Società Musiva informs me that, in general, a decoration simple in design and on a large scale would cost from 125 to 250 lire per square meter ($22.50 to $45 per 10.7 square feet). More elaborate work would require from 250 to 400 lire per square meter ($45 to $72 per 10.7 square feet), and the price ascends to 800 lire ($144).

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*This report was made in answer to Department circular of January 25, 1899. Its preparation was retarded, in part, says the consul, by the unwillingness of Italian business men to give information about their affairs. For other reports in the series, see ADVANCE SHEETS No. 581 (November 16, 1899); CONSULAR REPORTS No. 232 (January, 1900).

For small commissions, in private houses or inconsiderable portions of public buildings, the expense is purely one of individual contract and is for the entire piece.

It may not be irrelevant to note a few of the more important buildings decorated by the Società Musiva Veneziana. Among them may be named the Duomo of Florence (restored façade); the church of Santa Maria Ausiliatrice, at Turin; the church of Santa Maria Immaculata, at Genoa; the tomb of Pius IX, at Rome; the Israelite synagogues of Milan, Turin, and Florence; the church of Notre Dame de la Garde, at Marseilles; the Cathedral of St. Vladimir, at Kief; the votive church of the Resurrection, at St. Petersburg; the monument of Alexander II, at Moscow; and the Russian churches in Vienna and Jerusalem.

The Compagnia Venezia-Murano differs from the Società Musiva Veneziana in that it has its own glass furnaces at Murano and conducts the mosaic business as a department of glass manufacture. In the matter of prices, this company differs immaterially from the other. This company, however, deals to some extent in mosaics as commercial products. The mosaics are sold for from 1 to 5 lire the kilogram (18 to 90 cents per 2.2 pounds) wholesale.

The Compagnia Venezia-Murano puts out work of the highest quality and was employed by Sir Edwin Burne-Jones for the execution of his designs.

The mention of these two houses by no means exhausts the Venetian producers of and decorators in mosaics; but no other firm works on a parallel scale. The many glass factories manufacture mosaics as a side product. The industry is not one to be considered by itself—hardly even in the case of the Compagnia Venezia-Murano—and among the smaller establishments is of the most incidental importance.

As to buildings noteworthy for their polychrome decoration, that is a subject rather to be studied from the literature of architecture; for, in spite of the wide admiration for Venetian mosaics, not one modern edifice in Venice bears that decoration, with the exception of the headquarters on the Grand Canal of the Compagnia Venezia-Murano, if a refitted Renaissance palace may by courtesy be called modern. The peculiar situation of Venice, however, renders the erection of modern buildings more difficult and more undesirable than in other cities, which may account for the neglect by the modern Venetians of the polychrome decoration so much affected by their ancestors.

There can not be said to exist here an industry for the manufacture of marble mosaics for pavements. There is desultory activity in this direction, occasioned by the necessity of repairing the floors

of St. Mark's and other buildings notable for their decoration in this respect, but nothing in the way of an organized business.

The manufacture of tiles is something quite apart from that of mosaics, and in the city of Venice is unknown. There is a factory of tiles in the district of Veneto. The product, however, is hardly what is understood as the art tile among our own manufacturers; nor are the processes of manufacture worthy of imitation, being generally superannuated.

I may mention a house situated in the city of Treviso as typical of other houses in the region, more particularly as producing a tile of a valuable kind. The establishment is that of G. Appiani, which received highest awards in 1893 at Chicago for its indestructible tile.

This tile is made by a secret process from clay found in the region of Treviso. The qualities claimed for it are resistance to friction, extremes of temperature, and chemical action. It is also very light and less expensive than marble flooring. In appearance, it is glazed and colored throughout with plain tints. The tiles are manufactured in four principal sizes, as follows:

Description.	Surface.	Weight.
	Inches.	*Pounds.*
Large squares	7.2 by 7.2	1.8
Small squares	1.8 by 1.8	0.099
Octagons	7.2 by 7.2	1.6
Hexagons	4.8 by 4.8	0.66

The prices vary from 4.50 to 7.40 lire per square meter (81 cents to $1.33 per 10.76 square feet), and are given f. o. b. Genoa. Discount of 10 per cent is allowed on surfaces not less than 450 square meters (4,815 square feet). The weight of these floorings, laid, is about 20 kilograms the square meter (44 pounds per 10.76 square feet).

The tiles are intended for any kind of interior or exterior pavement or footway, but, on account of their pleasing appearance, are excellently adapted for simple mural application. It is at the same time to be understood, however, that they are not primarily art tiles.

The highly decorated tile is not produced in this district. A number of small establishments manufacture paving tiles of different cements or clays. But the supply is purely for local use and exceedingly limited, while the methods of production are altogether primitive.

In general, it may be said that the cost of production both of tiles and of mosaics is small. The clays and cements for the tiles are obtained in the immediate region; the "smalts" of mosaic come

from the adjacent glass factories; machinery is in almost every case out of date; and labor is cheap. There are no laws regulating woman and child labor; but in any case wages rarely rise above 3.50 lire (63 cents) a day, while 50 centesimi (9 cents) is by no means uncommon. In the Venice glass and mosaic factories, woman and child labor are largely employed, and the working day is about eleven hours.

As to markets, a representative list of buildings decorated by the Società Musiva Veneziana has been given above, and will indicate the scope of the fine-mosaic trade. In its own field the Venetian glass mosaic has no European rival and is always in demand by those architects who enjoy the means to command its resources. The demand must necessarily, however, be always rather limited. With respect to the tiles of Veneto, it has already been pointed out that they do not leave the region, with the sole exception of the Appiani tile. There is considerable exportation of this tile; but outside of its own district it immediately comes into competition with the French, German, and English article. There are no laws prescribing the use of tiles in kitchens, toilet rooms, or abattoirs; nor does the Government offer encouragement of any kind to the trade. The industry therefore meets no stimulus beyond the preference of Italians for paved floors.

H. ABERT JOHNSON,
Consul

VENICE, *January 30, 1900.*

TILES AND MOSAICS IN BOHEMIA.

Consul Mahin, of Reichenberg, sends the following report in response to instructions from the Department:*

In this consular district the most practicable and serviceable tile, it is stated, is from four-fifths of an inch to 1⅛ inches thick.

The proportion of the cheap to the high grade of tile made is three to one. Clay for cheap tiles is found near the factories, but for the better tile it must in some cases be transported a few miles. The outside cost of transportation of raw materials to tile factories in this district is 25 cents per 100 pounds.

Men, women, and children are employed in some of the tile factories; in others there are no children. The workers are mostly men. Wages are from 10 to 15 kreutzers (4 to 6 cents) an hour, usually for eleven hours a day, though the time is often increased.

In the town hall and railway buildings of this city, tile is used

* For other reports in the series, see ADVANCE SHEETS No. 581 (November 16, 1899); CONSULAR REPORTS No. 232 (January, 1900).

for floors and inner walls. Several business houses and residences are outwardly ornamented with tile, and the effect is very handsome. In many churches and schoolhouses in this district tiles and mosaics are also used.

The use of tile for the exterior of buildings is not much in vogue in this district. It is deemed too expensive, but it has the advantage over other materials of needing only occasional washing to maintain constantly a new appearance.

The prices of tile are 2 florins (81 cents) per square meter (10.7 square feet) for the cheapest plain and 2.50 florins ($1.01½) for the best. For mosaics, prices range from 2.50 to 8 florins ($1.01½ to $3.25) per square meter. These prices are net at the factory, payable on receipt of the goods by the purchaser. The charges for packing are the actual cost thereof.

The cost of a tiled floor or a tiled wall finished, including labor, is the same as the prices named above plus 70 kreutzers (28 cents).

The freight charges on tile are as follows: Sixty miles, 12 cents per 100 pounds; 180 miles, 34 cents; 300 miles, 55 cents; and proportionate rates for intermediate and greater distances. The Government does not control freight rates.

The art tile and mosaic manufacturers in this district are Franz Simon, Friedland; Teplitzer Chamottewaaren Fabrik, Kosten; Fürstl. Thurn-Taxis'sche Ziegeleiverwaltung, Dobrowitz; Domänen Verwaltung Gross Trebesov, in Gross Trebesov.

DRESS GOODS IN ROUMANIA.

Consul Atwell, of Roubaix, under date of January 20, 1900, sends translation of a communication from the French consul at Galatz in regard to the introduction of French goods into Roumania. Mr. Atwell thinks the information may be of interest to American manufacturers, as similar cotton goods are largely made in the United States at prices below those cited for France and Germany. The article reads:

The textile industry scarcely exists in Roumania, and there is immense competition among the countries furnishing her dress goods. The quantity of these goods in weight imported annually by Roumania amounts to 25,000 tons, representing a value of 50,000,000 francs ($9,650,000). This constitutes half the general importation of the country.

England sends the greater portion of these goods; then follow Germany, France, Switzerland, and Austria-Hungary. The importation of French dress goods is small, compared with that of other countries. Roubaix and Lille, however, are beginning to ship a good deal; the prices, unfortunately, are high and credits are limited.

The following is a table, taken from official statistics, of the value of dress goods imported by countries of production:

Country.	Value.	
	Francs.	
England	47,515,000	$9,170,395
Germany	48,610,000	9,381,730
Australia	32,048,000	6,185,264
France	10,965,000	2,162,245

The principal goods demanded in Roumania are ordinary linen, cretonne, printed calico or chintz calico, and cotton cloth, called "American," which is in great request by the working classes.

France sends fine goods, but in small quantities. She furnishes knit goods as well, but can not compete in this line with Germany, which sends similar articles at lower prices. The low prices and long credit compensate customers for the slightly inferior quality of the German goods.

England sells ordinary articles in this line at 1¼d. (2.86 cents) per yard, payable in Manchester; superior qualities are sold at 3d. (6 cents) per yard, always payable in Manchester.

Germany delivers at 35 centimes (6.7 cents) the meter (1.09 yards) for ordinary quality and 43 centimes (8.3 cents) per meter for fine quality. France asks 50 to 53 centimes (9.6 to 10.2 cents) the meter for ordinary quality, which is equal to so-called fine quality in other countries. All these prices are for cash payments at place of manufacture.

English and German manufacturers accord nine, twelve, and fifteen months' credit.

Dress goods are shipped in iron-bound bales weighing 400 kilograms (881.8 pounds), and are usually sent by water.

In order to compete with England and Germany, French manufacturers should produce goods at lower price and similar to those shipped by other countries to Roumania.

Wholesale houses in Galatz dealing principally in above-mentioned goods are: Menitescu & Son, Anton Czuntu, M. Bernstene, J. Silberstein, S. Stemberg, and Frati Anastasin.

The principal commission merchants are: S. Rosenfeld, Carl Hirschorn, J. Sussman, and Jacques Kleiner.

Commercial travelers, well supplied with samples, would do well to visit customers frequently and have goods that are ordered manufactured without delay.

TRADE SECRETS IN GERMANY.

According to German newspapers, the German federal court has recently rendered a decision which appears to be of interest to United States consuls in Germany, as they are frequently requested by citizens of the United States to procure for them all possible information regarding manufacturing processes employed in Germany. It appears that a foreman in the employ of a certain establishment invented a substance which his employer used in finishing

"rustling" velvet. The use of this substance was considered a trade or business secret of the firm. The foreman, however, imparted the composition to others, and the firm had him tried under the law of May 27, 1898, entitled "An act for the suppression of base competition" (Gesetz zur Bekaempfung des unlauteren Wettbetriebs). The foreman was found guilty in the lower court.

The case was appealed to the federal court and the defense made the point that the foreman had only imparted his own invention to others; that the same was his intellectual property. The federal court dismissed the appeal on the following grounds:

The foreman was employed as such by the firm, and therefore it was his duty to try experiments by which the methods of work could be improved.

His achievement in inventing the substance was therefore only a part of the services which he owed to his employers. The invention belonged to his employers, and therefore the action of the foreman in imparting the secret to outsiders was in violation of the law referred to. Only an employee is intrusted with experiments which may lead to such inventions. A stranger, whose labor does not belong to the establishment, is excluded from such experiments. The foreman was admitted to the experiments only on account of his employment by the firm, and it followed that the invention in question was made by him in consequence of his employment by the firm, for which he was paid.

RICHARD GUENTHER,
Consul-General.

FRANKFORT, *February 21, 1900.*

GERMAN MEAT-INSPECTION BILL.

Vice-Consul-General Hanauer writes from Frankfort, March 6, 1900:

Strong opposition to this legislative measure is manifested by the manufacturing, commercial, and export circles of Germany.

The National Commercial Diet, which comprises all the German chambers of commerce, has entered a protest against the adoption of the law. A well-informed Frankfort paper reports that there is a movement among the cotton-textile manufacturers throughout Germany to petition the Government not to allow this bill to become a law, as they fear their brands will seriously suffer from the tariff war which would probably result.

The chamber of commerce of Hamburg has sent a petition to the Reichstag setting forth the damage which the resolutions adopted by the meat-inspection commission, to exclude all foreign fresh and

canned meat, sausages, etc., after 1903 will cause, not only to the importers and retailers of these articles, but to the vast interests of the entire German export and shipping classes. From Australia, England, and South America, says the petition, come threats of reprisal. The adoption of this bill would be, furthermore, extremely injurious to the working people. These foreign meats have never shown health-impairing qualities.

Under date of March 13, Mr. Hanauer adds:

All over Germany meetings are being held by trade bodies, manufacturing associations, chambers of commerce, etc., for the purpose of protesting against the passage of the bill. The chamber of commerce of Frankfort has unanimously adopted resolutions saying that its final acceptance would have ominous consequences for wide circles of German industries and commerce, as well as cause a great advance in the price of a principal food article of the working population. The resolutions do not hesitate to affirm that—

This legislative act is not in the slightest manner justified by sanitary considerations, but actually involves the sacrifice of the interests of the most important productive classes of our country for the sole and one-sided benefit of the agrarian movement.

The Association of Chemical Manufacturers of Germany, which is part of the central bureau for the preparation of commercial treaties, yesterday convened in extraordinary meeting at Berlin, and unanimously passed similar resolutions, from which the following extract is taken:

This association holds it to be unfair and disloyal that under the pretense of taking sanitary precautions, commercial-political measures are resorted to which encroach on international trade relations guaranteed by treaties, and which must injure our relations with foreign powers. We expect our Government to protect all our national interests, but this can only be efficiently done if Germany herself honestly fulfills her treaty obligations and refrains from giving cause for just complaints.

GERMANY'S MACHINE EXPORTS.

The following, dated Chemnitz, January 13, 1900, has been received from Vice-Consul Monaghan:

The following figures are very interesting and go to show the progress Germany is making in the markets of the world, especially in machinery. In 1890 she exported 88,295 tons, worth $16,065,000. In 1898 the export went up to 191,020 tons, worth $35,224,000. This is an increase of 120 per cent. This increase would have been much greater, it is claimed, had not the home demand assumed such gigantic proportions as to prevent German manufacturers giving

close attention to the outside world. The country that played the most important part in this increase is Russia. Switzerland came second; then England, Denmark, Roumania, Italy, Holland, Sweden, Norway, and last of all the United States. The importation of machinery into Germany increased from 57,300 tons in 1890 (worth $10,472,000) to 83,760 tons in 1898 (worth $13,328,000). This increase is due mostly to the importation of American machines.

In regard to the export of machines to Russia, Vice-Consul-General Hanauer, under date of Frankfort, January 15, 1900, gives details as follows:

In the eleven months ending November 30, 1899, German locomotives and locomobiles shipped to Russia amounted to 11,000,000 pounds, against 5,900,000 pounds for the same period of the previous year. The shipments in cast-iron machines gained 28,000,000 pounds, and those of wrought iron 2,000,000 pounds during eleven months, as compared with the same period of 1898. The gain in money value of these three lines is estimated to be about $2,600,000. Sewing machines also increased.

GERMAN AGRICULTURAL IMPLEMENTS IN RUSSIA.

The published announcement that the American exhibitors of agricultural machinery at the Paris Exposition would, after the close of that display, transfer their exhibits to a special exhibition of machinery to be held at Moscow during the autumn of the present year has suggested a counter move on the part of the alert and enterprising "Central Union of German Industrials," which safeguards so actively and efficiently the interests of its members.

This association has issued to all German manufacturers of agricultural implements and machinery a circular, in which it is proposed that they shall forestall the American exhibition at Moscow by transferring to some well-chosen city in Russia the machinery and implements of German manufacture which are to be exhibited at the forthcoming exposition in Posen from the 7th to 12th of June next. Posen is located in eastern Silesia, near the Russian frontier, so that a transfer of the whole German machinery exhibit there to Moscow, Wilna, Minsk, or St. Petersburg would be easy and inexpensive.

The circular points out the serious danger which is threatened by the American exhibition to the present large and important German trade in agricultural implements with Russia and asks whether, under existing circumstances, the German makers feel disposed to send their exhibits from Posen to a second exposition in Russia; if

so, where and for how long a period should this exposition be maintained; and, finally, what part of his proportionate share of the entire cost of such an enterprise each exhibitor is willing to contribute.

Answers to these interrogatories are to be sent in not later than February 20, after which date the Central Association will ascertain what part of any deficit in expenses will be paid by the Imperial German Government, and will then decide whether or not the proposed scheme shall be carried through. It is understood that twenty-four firms and companies, including all the largest and most important manufacturers of agricultural implements and machinery in this country, have already returned favorable answers, so that it may be safely assumed that the proposed exhibition will be opened at some carefully chosen point in Russia about the 1st of July next, four or five months in advance of the opening of the American exposition at Moscow.

FRANK H. MASON,
Consul-General.

BERLIN, *February 3, 1900.*

A report on the same subject has been received from Vice-Consul Monaghan, of Chemnitz.

PRUSSIAN AND HESSIAN RAILROADS.

The railroads of Prussia and Hesse are owned by the respective Governments and operated by a joint management, with the exception of 1,584 miles owned by private corporations.

The Prussian Minister of Public Works has just sent a report concerning these Government roads to the Prussian Diet, from which the following data are taken. I give distances in miles and values in United States currency. The total mileage has, from 18,113 miles in the previous years, increased to 18,494 miles, of which 12,410 miles are main lines and 6,084 miles are local lines. Eleven thousand and eighty-nine miles are single-track, 7,329 miles are double-track, 23.6 miles are three-track, and 52 miles are four-track lines.

The invested capital of the Prussian-Hesse Government standard-gauge railroads is placed at $1,802,129,336, or $97,444 per mile. The capital invested has increased over the previous year $39,300,000 and the average cost for each mile $86. The equipment was increased by 782 locomotives, 1,117 passenger coaches, 356 baggage cars, and 21,418 freight cars at a cost of $27,330,000—against $18,714,000 the year before. The number of locomotives in active service has increased from 11,602 to 12,070, of passenger coaches, from 21,039 to

21,887; of baggage cars, from 5,457 to 5,713; and of freight cars, from 252,194 to 267,397.

The purchase value of these equipments is put down as $357,000,000, or 19.62 per cent of the total invested capital. The number of passengers transported increased from 479,490,000 to 522,280,000, or 8.92 per cent. Of these, 1,740,000 were first-class, 51,550,000 were second-class, 260,360,000 were third-class, and 201,400,000 were fourth-class passengers. Seven million two hundred and thirty thousand traveled on military tickets.

The receipts from passenger traffic increased from $73,400,000 to $78,570,000, or 7.06 per cent, while the mileage only increased 1.68 per cent. The average receipts for every person transported is figured at 15 cents, against 15.24 cents the previous year; and per mile at 1.025 cents, against 1.039 cents the year before. This decrease per passenger and per mile is attributed to the comparatively large increase in the number of fourth-class passengers.

In the freight traffic, the number of tons transported increased from 181,810,000 to 192,780,000, or 6.03 per cent, to which must be added 13,830,000 tons transported free of charge, so that the total amounted to 206,610,000 tons, against 194,520,000 tons the year before. The increase is accounted for as a result of good times and of new lines. Of coal, 84,290,000 tons were carried, which equals 40.8 per cent of all freight, against 79,560,000 tons, or 40.9 per cent the year before. The receipts on freight increased 6.44 per cent—from $187,110,000 to $199,150,000, being an average of $1.33 per ton, against $1.029 the previous year.

The total receipts from passenger and freight transportation in 1898–99 were $280,500,000, an increase of $17,400,000, or 6.63 per cent, over 1897–98; but here it must be borne in mind that these receipts would have been $6,090,000 higher if the Imperial Post-Office Department had paid the full value for the services rendered. The total receipts from all sources for 1898–99 were $300,800,000, an excess of $17,800,000, or 6.3 per cent, over 1897–98.

The total expenditures, however, had increased 10.64 per cent over the previous year, or from $156,410,000 to $170,670,000. The excess of receipts over expenses is shown to be $127,770,000—$1,180,000 larger than in the previous year and $2,370,000 more than had been estimated. The net profits are equal to 7.07 per cent on the total capital invested, against 7.14 per cent the previous year and 7.15 per cent two years ago.

RICHARD GUENTHER,
Consul-General.

FRANKFORT, *January 24, 1900.*

ELECTRIC STREET RAILWAY IN GENEVA.

Within six months an electric street railway, projected by a citizen of San Francisco and constructed by an American electrical engineer, will be in operation in Geneva.

Some two and a half years ago, Mr. Henry E. Butters, of San Francisco, Cal., who has been connected with the construction and exploitation of street railways in Cape Town and the City of Mexico, was in Geneva. He found a congested population, badly served by old-fashioned steam tramways and horse cars, and the idea of securing control of the franchise of the principal companies and organizing a new company for the operation of a street-railway system on the American plan at once occurred to him. The interest of local capitalists was enlisted, and in the course of some months Mr. Butters and his associates had secured a controlling interest in the Narrow-Gauge Street Railway Company of Geneva, which owns and operates some 72 kilometers (44.74 miles) in the city and suburbs. The projectors also secured an option on the franchise and property of the Compagnie Générale des Tramways Suisses, which owns and operates 26 kilometers (16.56 miles) in the heart of the city and its environs. The price to be paid if the right under this option is exercised, as it doubtless will be, is 6,500,000 francs ($1,254,500). The projectors have also secured a federal charter under the title of "Compagnie Genevoise des Tramways Electriques" and obtained concessions to lay their tracks on some of the finest streets and quays of the city, including the famous rue du Rhône and Quai des Bergues. They also secured the right to construct and operate a line on the famous lake-side drive from Geneva to Versoix, a distance of some 8¾ kilometers (5.44 miles), past the fine villas and chateaux of the wealthy and aristocratic classes.

The new company was organized with a capital of 5,000,000 francs ($965,000); but none of the stock has yet been issued or sold, although it has probably been largely apportioned. It is understood that the money for the construction is being furnished by the Paris Bank of South Africa. London capitalists are also interested in the venture, and it is likely that the new company in a short time will own and control all the street-car lines in the city and Canton of Geneva. To put existing options into effect, to construct and equip all these lines on the American plan, and to exploit the extra-exclusive rights of the new company will entail a total expenditure of about 15,000,000 francs ($2,895,000). The company would then have about 150 kilometers (95 miles) of road traversing the city in

every direction and serving the entire Canton. The total population amounts to about 119,000. The Canton is next to the smallest of the Swiss Confederation and has only about 12 square miles of territory. The lines would also cross the frontier into France and would serve various small towns in the French Departments of Haute-Savoie and Ain.

The engineer under whose management and direction the new lines are being constructed is Mr. Stephen D. Field, of New York and Boston. The work is progressing, and 15 kilometers (9 miles) of track have already been laid. One, at least, of the new lines will be in operation by the 1st of June. The American overhead-trolley system is being used and the American system of conduits for underground cables, for the first time in Europe.

The charter of the new company requires that the materials used in construction be bought either from Swiss manufacturers or from Swiss houses representing foreign manufacturers. This for the moment virtually bars United States manufacturers, as no American concern has a Swiss agency. Up to this time, all rails have been bought in Germany, and all contracts for the construction of cars have been placed with Swiss agencies of German builders. The cars, however, are being built on the American plan; and one car has, by special permission, been shipped here from the manufactory of the Brill Company, in Philadelphia. France is largely furnishing the wire. The only American material that has yet been used is the Brown-Edison plastic rail bond.

Although Geneva has a large water-power force for generating electricity, it is not believed that this plant will be able to furnish sufficient electric power for the new street railway. Mr. Field also thinks that the price asked by the city—12½ centimes (2⅜ cents) per kilowatt hour—is unreasonably high. Electricity can probably be produced by steam in Geneva for from 6 to 8 centimes (1⅛ to 1½ cents) per kilowatt hour, and Mr. Field is willing to pay 8 centimes. The question is yet to be adjusted.

The tariff for street-railway transportation in Geneva is fixed at 10 centimes (2 cents) per passenger for the first kilometer (five-eighths of a mile) and 5 centimes (1 cent) for each succeeding kilometer. Experts who have studied the situation do not doubt the profitable result of the enterprise.

The company has an office at No. 43 Threadneedle street, in London, but its stock is not yet issued and is not for sale.

BENJ. H. RIDGELY,

GENEVA, *February 8, 1900.* *Consul.*

PROPOSED RAILWAY IN THE AZORES.

Consul Pickerell sends from St. Michael's, February 10, 1900, original and translation of the contract about to be let for the building and equipping of a modern narrow-gauge railway to connect that city, Ribeira Grande, and Furnas, a local resort noted for its hot springs. Mr. Pickerell says:

I desire to express thanks to Mr. William Clinnie, now of New York, an engineer of known ability in works of this and similar character, and also to Mr. João de Moraes Pereira, a native of this place and professor in the high schools of this city, for the very complete and intelligent manner in which they have done the work of translation. The best and most enterprising citizens fully believe that the enterprise will be a success. Under the law by which this railroad was authorized, it will be useless to make a bid for more than that given in the estimate of cost. This observation is based on the decision of the original maker of this contract after considerable discussion, and is the opinion of others well versed in Portuguese laws. I believe that Americans would have an equal chance with other foreigners in obtaining the contract, and would be pleased to have an opportunity to assist any who may desire to make a bid.

The proposed contract (the full text of which is filed for reference in the Bureau of Foreign Commerce, where it may be consulted by interested parties) is summarized below:

The junta general of the district of Ponta Delgada is authorized to grant the construction of a railroad between the cities of Ponta Delgada, Valle das Furnas, and Villa da Ribeira Grande. If no offers can be accepted, the junta is authorized to construct the road on its own account.

The contracting company is to construct a road starting from the vicinity of the custom-house in Ponta Delgada and running along the coast, past S. Roque, Livramento, Atalhada, Lagoa, Agua de Pau, Ribeira Chã, Praia, Villa Franca, Ribeira das Tainhas, and Ponta Garca, to Furnas; and a branch line to Ribeira Grande from Pranchinha, running near Rabo de Peixe. The plans are to be approved by the Government, and shall include the general plan of the road, with stations, water courses and roads crossed, buildings and other accessories; a longitudinal profile giving distances and grades; cross sections showing the type of road; detailed plans of construction; and an explanatory report. The company is to keep the line and rolling stock in good order and is to construct a telegraph line. After the road is completed, the company shall within one year mark out the road in kilometers and make a cadastral plan, with description of the same, and deliver one authenticated copy to the Government and another to the junta general. The road is to have a single line, except at stations; the width at the upper surface of the ballast shall be 2.2 meters (7.2 feet), whether in embankment or excavation. The width of the line shall be 1 meter (3 feet 3.37 inches). The maximum grade shall be 30 millimeters per meter. The radius of the curves shall be 100 meters, except

for sidings. The rails are to weigh not less than 20 kilograms (44 pounds) per meter. They must be made in accordance with the latest improvements. The sleepers must be of iron or of some wood that holds spikes securely. The road is to be fenced. Platforms must be provided at stations, and viaducts, bridges, etc., must be of stone, iron, or brick. Gates must be provided at all level crossings.

The Government concedes to the company the exploitation of the road for ninety-nine years, the charges for transportation to be approved by the Government. It shall then become the property of the junta general. After the expiration of the first fifteen years after the completion of the line, the junta shall have the power to redeem the concession, on the basis of the net earnings of the road during the preceding seven years. The junta guarantees to the company an annual net return up to 5 per cent in relation of the cost of each kilometer constructed, including interest and amortization of capital; but the actual sum paid by the junta shall in no case exceed 4 per cent of the cost. When the net proceeds of the line exceed 5 per cent per annum, half of the excess shall belong to the junta until the sums advanced by the said junta in respect of the guaranty of interest are repaid, as well as interest at the rate of 5 per cent. The company shall have exemption from imposts, general or municipal, for twenty-one years after the beginning of the work; in this exemption are not included transportation and stamp taxes imposed on the fares for transportation of passengers and goods as laid down in existing legislation. No special contribution of any kind shall be levied on the railroad during the concession. The company can import free of duty, for six years, rails and fastenings, switches, material for bridges, locomotives, carriages and cars, machinery, tools, etc., used in the construction of the line. Lands belonging to the Government which may be necessary for the construction and working of the road are conceded gratuitously. The Government is to assist the company in making expropriations of land that may be necessary.

The company is to deposit in the treasury 30,000 milreis* as a guaranty of the fulfillment of this provisional contract, pending its authorization. If the contract is approved, the company shall within a month increase the deposit to 60,000 milreis, short, in money or bonds of the Portuguese public debt. This deposit can be withdrawn only when the company has done work to the value of double the deposit. The surveys and technical details of the project and works of construction shall be prepared and presented for approval within one year from the date of the definite contract. The construction of the railroad shall begin within sixty days after the project is approved by the Government, and the road must be open for traffic within four years.

The junta shall appoint engineers to inspect the construction of the road. The company can, with the approval of the Government, transfer its rights to another company or individual; but if the latter is foreign, there must be a clause in its statutes to the effect that it renounces privilege of nationality.

The basis of the licitation shall be the sum of 21.800 milreis, island money,* at which is calculated the maximum per kilometer of the cost of construction.

A report recommending the construction of the railroad, attached to the documents transmitted by Mr. Pickerell, says that the total population served by the road will be 60,369, and calculates the gross earnings in the first years as 90,000 milreis, of which 50,000 milreis will be for passengers and 40,000 milreis for goods.

* The Portuguese milreis is valued at $1.08. The consul does not state whether there is any difference between the "island" milreis and that of Portugal.

ANTWERP IVORY MARKET.

Consul-General Lincoln writes from Antwerp, February 13, 1900:

The first quarterly sale of the year was held on the 6th and 7th instant. The ivory offered and sold was as follows:

	Pounds.
Kongo:	
Hard	95,313
Soft	7,211
Angola	33,212
Angola and Kongo	14,742
Gaboon	7,821
Kamerun	381
Senegal and Gold Coast	1,060
Siam	330
Hippopotamus tusks	123
Total	160,193

The totals for the corresponding quarter of preceding years were:

	Pounds.
1899	141,466
1898	126,555
1897	131,656
1896	144,788
1895	135,256
1894	82,767
1893	95,994
1892	56,217
1891	55,009
1890	24,647

The prices for hard ivory were very irregular, having decreased for the heavy and medium weight tusks of ordinary quality by from 9 to 19 cents per kilogram (2.2046 pounds), whereas prices for heavy tusks of good quality were increased by about 19 cents, some lots even reaching the figure of $5.23 per kilogram.

The prices paid for oversizes showed an advance of 9 cents; tusks for bangles, on the other hand, diminished from 9 to 19 cents per kilogram.

Scrivailles were sold at an advance of from 9 to 19 cents.

The soft ivory, heavy and medium weight tusks, decreased in value from 38 to 57 cents per kilogram; the other classes, however, were sold at the same prices as the hard ivory.

The next quarterly sale will be held on May 1, 1900.

HOUSE-LINING MATERIALS IN NORWAY.

There have been two recent inventions in Scandinavia of materials that are adaptable for various purposes, but more particularly for lining houses. The names of these materials are "Savareid Bygningspap" (Savareid building pasteboard) and "campo board." The first, a Norwegian invention, is made from a specially prepared paper,* which, together with several layers of asphaltum, is compressed into a solid plate, thus forming a very serviceable and fine material suitable for covering walls, ceilings, etc. The material thus obtained is absolutely damp proof and does not conduct heat; therefore, it will keep any room lined with it warm and comfortable. It serves to deaden noise and will keep away all kinds of vermin. Although a thick and solid substance, it is very pliable, and at the corners of a room can be either turned down or else bent to fit into the required angle without in any way destroying or injuring it. If used for paneling, it makes a smooth, even surface, free from cracks or folds of any kind. It is odorless and will not rot, and, although just as strong as a wooden panel, it will be found to be cheaper even than thin boards.

The other invention—"campo board"—Swedish patent, is a board composed of five layers. The central one is composed of pieces of wood fitting close together and lying in different directions; the adjoining layers are of a very strong cement, which is used to fasten the pieces of wood forming the central layer into a solid and inseparable board; the two outer layers are of strata of very heavily compressed paper, which has been made waterproof. Campo board, as made in Sweden, in pieces 4 feet wide by 8 to 18 feet long, will be found as serviceable for the interior of houses as the building pasteboard, since it has the same qualities, and, in addition, can be used for lining ships, making boxes, trunks, all kinds of fillings, tables, writing desks, bottoms of drawers, signs, backs of looking-glasses, etc., and is capable of being either polished or painted. It would be found very useful by our trunk makers, as it is much lighter than ordinary wooden panels and is also cheaper. It should prove an excellent method of disposing of a large part of the odds and ends of wood which are to be found at wood-working factories.

Samples of the two materials are mailed under separate cover.†

VICTOR E. NELSON,

BERGEN, *January 25, 1900.* *Consul.*

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*Pasteboard.

†Filed for reference in Bureau of Foreign Commerce.

THE PEANUT-OIL INDUSTRY.*

More oil is extracted from oleaginous seeds in the city of Marseilles than in any other trade center in Europe. After a period of depression resulting from the introduction of American cotton oil and failure of seed crops elsewhere, the trade seems to be again flourishing. The crushing of peanuts constitutes one of the most important branches of the industry. As there is no special machinery or process involved in the manufacture of peanut oil not also required for other oilseeds, most of the resident manufacturers crush arachides, or peanuts, when the market conditions are favorable, but not to the exclusion of other seeds. The extent of the business may be judged to some degree by the arrivals of peanuts in this city during the years named:

Description.	1899.	1898.	1897.
	Tons.	*Tons.*	*Tons.*
Shelled	9,579	5,466	8,355
Unshelled	61,241	63,286	31,888

A considerable quantity of West African nuts of high grade is crushed at Bordeaux, and there are some mills in the north of France. Marseilles is preeminent in the industry, however, the appended list mentioning the capacity of the various local crushers:

Names.	Presses.	Names.	Presses.
Auguste Arnoux*	20	Magnan Gavoty & Co	30
C. A. Verminck & Co	100	Jeansoulin & Luzzatti	40
Fritsch & Co	80	Jullian & Guiol	20
Charles Gounelle	100	M. Badetty & Fils	30
B. Roberty & Co	30	Maurel & H. Prom & Maurel Frères	80
Antoine Guis	50	Valabrègue & de Suffren	20
Nicolas Reggio	40		

*About the only crusher who devotes more attention to the manufacture of peanut oil than to other oils.

Of the foregoing, Maurel & H. Prom & Maurel Frères turn out the most peanut oil annually.

Peanuts are scarcely ever ground whole. Such a process produces an inferior quality of oil and a cake of little value. In fact, many of the nuts arrive in a decorticated state, after which the inner, or red, skin is removed as much as possible by a system of scrapers and winnowers. Particles of the inner skin will cling to the kernel

*This report was made in answer to inquiries by a Virginia company, to which ADVANCE SHEETS have been sent.

under all circumstances and can be plainly seen in the cake. The greatest pains are taken with edible oil. For this, the nuts are commonly received unshelled at the mill, and there decorticated by a special apparatus in conjunction with vibrating and ventilating machinery, the process somewhat resembling the wheat-cleaning operations in flour mills.

The husking of the peanuts is performed by a pair of grooved rollers, adjustable in order that the space between them may be increased or diminished according to the approximate average size of the nuts to be husked. The rotation of these rollers is quite rapid, and the ridges of one of the rollers fit into the center of the grooves of the other roller. In this first process the husks are completely crushed, and a good many of the kernels are also split. This broken mass of husks and kernels is then separated by means of air currents, similar to the winnowing process applied to wheat in flour mills.

Now, if the peanuts used are of old crop, the kernel is likely to be dry, and the light, inner red skin of the nut becomes detached in the first husking process. A large proportion of it is removed in the first ventilator, and nearly all of that which still adheres to the kernel is removed by the following process:

The kernels are passed over a rapidly oscillating sieve, the coarse-wired meshes cracking this red skin, which latter is then drawn off by another ventilating machine. I can not give the full details of the cleaning process of the mass which emerges from the grooved rollers; but my informant assures me that no specially constructed machinery is employed for this purpose, the whole work being executed by a combination of oscillating sieves and strong air currents.

If the peanuts are of new crop, it is most difficult to remove the red skin entirely, as in this case it adheres quite firmly to the kernel, and thus the kernels of new-crop nuts generally go under the presses with the greater part of the red skin still adhering to them. In order to more thoroughly cleanse the kernels before they are prepared for the presses, the new-crop nuts undergo the same process as the old-crop nuts.

When the kernels have been separated and cleaned, they are ground, preparatory to being pressed. The pressing takes place in the same manner in which other oleaginous seeds are pressed, the meal being enveloped in strong fibrous mats and subjected to hydraulic pressure. The resulting cake is then reground, the oil remaining in the meal secured as in the first instance. The oil is graded according to first, second, or third extraction.

The clarifying is done by means of filters, and the bleaching (if it may be termed thus) is done by the admixture of so-called "terre à foulon" (fuller's earth), a highly porous mineral substance. The

oil which is to be treated is poured into large vats and a certain quantity of terre à foulon is added. The whole is mechanically stirred for some time, and then allowed to rest for a certain period, during which the coloring particles contained in the oil are absorbed by the pores of the mineral.

The husks are of little or no value. When ground and mixed with cake (also ground) they form an inferior grade of cattle feed. About the only animals to which they can be fed without admixture are goats. When coal prices are very high, a number of crushers employ the husks as fuel. Crushers prefer to use new-crop nuts (despite the fact that the product is often inferior to old-crop oil), as they extract more oil from them. Decorticated nuts should average 37 per cent of their weight in oil. The average yield of oil from decorticated nuts of the crop of 1899 is estimated as follows:

Description.	First pressure.	Second pressure.
	Per cent.	*Per cent.*
Bombay nuts	28 to 30	10 to 12
Mozambique nuts	30 to 32	10 to 12
Senegal nuts	20 to 22	10

Crude peanut oil runs out thick and troubled, and must be filtered to make it bright yellow. To produce a water-white oil—as in the case of all other oils—it must be bleached. This is done by treating it with animal black and fuller's earth. It is contended that no alkaline lye is used, but the art is somewhat secret. Large quantities are thus bleached. Superfine peanut oil is considered brighter than American prime summer yellow cotton-seed oil, being yellow, with a slightly greenish tint.

Indian crops degenerate rapidly and have to be replanted from Mozambique seed. Mozambique or East African nuts arrive decorticated, while the Senegal or west coast nuts are delivered in the shell. On this account, it is difficult to establish a fair comparison of prices. At this date a fair price is 25 francs ($4.82) per 100 kilograms (220 pounds) for decorticated nuts and 20 francs ($3.86) for nuts in the shell. The Mozambique nuts, arriving decorticated, are believed to yield an inferior oil. In former times the difference was more pronounced. Then the nuts came to Marseilles in slow sailing vessels, and the Mozambique nuts became heated en route, while the west coast nuts, always shipped in the shell, arrived in prime condition. Now that fast steamships have replaced sailing craft, the decorticated nuts are delivered before much deterioration in quality has time to manifest itself. The Mozambique nut has an

earthy flavor and a slightly rancid taste. Inferiority varies greatly, according to crops and conditions attending shipment and delivery.

Superfine Mozambique oil sells at present at 72 francs ($13.89) per 100 kilograms (220 pounds); superfine Gambia (Senegal nuts), also at 72 francs ($13.89); and extra Ruffisque (Senegal nuts), at 80 francs ($15.44). Lower grades, used for manufacturing purposes, now bring from 68 to 70 francs ($13.12 to $13.51), showing an advance of about 34 francs ($6.56) over the prices ruling in previous years, during the inundation of cotton oil at 35 francs ($6.75).

The oil cake is often subjected to chemical treatment for the extraction of oil which has escaped the presses, and the resulting cake is said to be even more nutritious than before for feeding purposes. There is very little cake from unhusked nuts, and it can be used only as a fertilizer. I have seen some peanut meal made here, but the quantity is insignificant. The cake is highly regarded for cattle feeding, present values of various grades running as follows:

	Francs.
Cake of shelled and peeled nuts.....per 100 kilograms (220 pounds)...	13.50=$2.66
Cake containing red skin.....do	13.00= 2.50
Cake containing both shell and skin.....do.....	9.00= 1.73

Concerning the uses of peanut oil, I am permitted to quote from letters from three authorities. The first says:

> The oil of the arachide has no special adaptation. It is the most polymorphous of all oils, adapting itself to all purposes, including nutrition, lighting, lubrication, and blending. It is the most difficult to detect when mixed with olive oil, because its chemical reaction is white. There is no likelihood that it will ever be driven out by cotton oil. It has lived through the worst times. Its future depends upon African and Indian crops.

My second correspondent writes:

> The best qualities of peanut oil are used for table purposes, either pure or mixed with olive oil, cotton oil, or sesame oil. As an illuminant it gives a soft, white light. When neutralized, it is highly rated for lubricating purposes. It stands almost on a level with cotton oil, but for table purposes good peanut oil is worth rather more than cotton oil. I know of no use for which cotton and peanut oils are not interchangeable, but at even prices peanut oil will always be preferred.

A third correspondent says:

> Peanut oil can be and is used in every industry and department of business when it can compete in price with other oils. Its principal uses are for human consumption, as in salad oil and artificial butter, for mixing purposes, as an illuminant and lubricator, and for the manufacture of soap. Peanut-oil soap is the real type of the famous Marseilles white soap. Therefore, cotton oil is used only in default of peanut oil or when the price is against the latter.

During certain years, the African crop of peanuts has been entirely swamped by the Indian supplies, and at one time it seemed as though Africa would be unable to compete with India permanently.

India continues to be an important factor, and is at this time sending a considerable quantity of stock to Marseilles, but appears to be annually using more and more of its crop at home. It will be interesting in this connection to examine a table of arrivals of peanuts separately and of all oleaginous seeds combined in this city, measured in tons of 1,000 kilograms (2,204.6 pounds).

Year.	Peanuts.	Oilseeds of all kinds.
	Tons.	*Tons.*
1889	116,000	325,000
1890	123,000	348,000
1891	147,000	394,000
1892	101,000	326,000
1893	132,000	394,000
1894	170,000	435,000
1895	102,000	367,000
1896	76,000	343,000
1897	40,000	260,000
1898	68,000	309,000
1899	70,000	327,000

During the years 1890, 1891, and 1894 the great mass of arrivals consisted of unshelled peanuts from India. During 1897, 1898, and 1899 most of the arrivals of peanuts came in the shell from the west coast of Africa.

During the period accounted for above, the imports of cotton oil—almost exclusively from the United States—rose from 5,125 tons in 1889 to 53,000 tons in 1898 and 49,000 tons in 1899.

The cotton oil crowded into the market and menaced the crushing trade with extinction, partly because seed crops were poor and prices high, but mainly because cotton oil was hungrily seeking a market at very low prices. Present statistics would seem to indicate that new demands had been created for oils of all grades, since the amount of oil manufactured in Marseilles appears to have returned to its old average, and never to have been heavily reduced; prices meanwhile, after serious derangement, having crept back to approximately their old level. There are now no stocks of oilseeds or of oil. America is consuming vastly greater quantities of cotton oil than heretofore, and, with a world-wide decrease in the amount of animal grease which must be made up by vegetable oils, there would seem to be assurances of continuing profitable prices.

The success of the United States in manufacturing peanut oil will depend in large measure upon the price at which the nuts can be grown. The belief here is that the American nut is richer in oil than the African, and this quality can be increased by careful cultivation. Little change either in method of cultivation or price average is looked for in Africa. It is true that a large part of Africa

is believed to be available only for a crop of peanuts; but the native labor, though cheap, is lazy and thriftless and hard to abtain when required. The soil is readily exhausted, and nothing is done to restore its virtue. There are no means of interior transportation, and the crop must be handled laboriously several times before it is loaded for the port of destination. It will be years before notable improvement can be expected. I am disposed to believe that the trade in Marseilles will not so much speculate on the prospects for success of American enterprise in this field as it will wonder why the effort has been so long delayed.

ROBERT P. SKINNER,
Consul.

MARSEILLES, *February 12, 1900.*

MERCHANT MARINE OF RUSSIA.*

The merchant marine of Russia on January 1, 1898, of 604 steam and 2,294 sailing vessels, was distributed as follows:

Sea.	Steamers.		Sailing vessels.		Total.	
	No.	Tons.	No.	Tons.	No.	Tons.
Inland seas:						
White	33	5,027.55	396	22,149.38	429	27,176.93
Baltic	95	19,053.41	586	78,744.92	681	97,798.33
Black and Azof	263	142,512.32	773	54,535.4	1,036	197,047.72
Caspian	213	95,365.18	539	188,416.07	752	283,781.25
Total	604	261,958.46	2,294	343,845.77	2,898	605,804.23
Exterior seas	391	166,593.28	1,755	155,429.7	2,146	322,022.98
Grand total	995	428,551.74	4,049	499,275.47	5,044	927,827.21

An examination of the above table will show that in all Russian seas, with the exception of the Black and Azof, the sailing vessels predominate over steamers in number. Of the total tonnage of the merchant marine, in the respective seas, the tonnage of the sailing vessels on the White Sea is 81.5 per cent; on the Baltic, 80.5 per cent; on the Caspian, 66.4 per cent; and on the Black and Azof seas, only 27.7 per cent. The tonnage of the sailing vessels on the exterior seas forms 48.3 per cent of the total tonnage of all the vessels, and including the Caspian Sea 56.8 per cent. In the tonnage of the merchant marine the Caspian Sea occupies the first place, the sailing fleet exceeding in tonnage that of all the exterior seas; the steam tonnage on the Caspian Sea comes next to the Black and Azof seas, and is largely in excess of that of the White and Baltic seas.

*This report was made in answer to Department circular of June 20, 1899. Mr. Holloway says that on receipt of the circular, he asked the marine department for the necessary information, but its reply was not received until a few days ago. For other reports in the series, see Special Consular Reports, vol. xviii.

STEAMERS.

The following table shows the total tonnage of the steam fleet on January 1, 1898:

Tonnage.	Number of vessels on the different seas.*				
	White.	Baltic.	Black and Azof.	Caspian.	Total.
Less than 50 registered tons	12	34	46	12	104
50 to 200 tons	12	26	73	41	152
200 to 400 tons	3	16	51	51	121
400 to 600 tons	4	7	28	30	69
600 to 1,000 tons	1	6	29	61	97
1,000 to 2,000 tons	.....	3	20	14	37
2,000 tons and more	.....	.....	16	.....	16

*Except those whose tonnage is not given.

The following table distributes the vessels according to the weight of their cargo:

Quantity of cargo.	Number of vessels on the different seas.				
	White.	Baltic.	Black and Azof.	Caspian.	Total.
Less than 82 tons	2	11	14	5	32
82 to 164 tons	2	5	10	7	24
164 to 328 tons	3	16	19	30	68
328 to 656 tons	2	5	58	60	125
656 to 982 tons	1	4	22	42	69
982 to 1,639 tons	1	9	15	33	58
1,639 to 2,459 tons	.....	2	12	1	15
2,459 tons and more	.....	.....	15	.....	15

The appointment of these vessels is as follows:

Sea.	Passenger and mail.		Freight and passenger.		Freight.		Petroleum boats.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
White	.....	.....	9	3,751.15	4	412.89	.....	.....
Baltic	7	655.21	29	7,879.97	16	7,640.95	2	1,161.23
Black and Azof	43	58,262.48	51	45,348.71	68	27,155.65	4	4,718.61
Caspian	5	3,216.55	58	20,684.02	15	5,422.38	100	63,721.45
Total	55	62,134.24	147	77,663.85	103	40,631.87	106	69,601.29

The total value of steamers on January 1, 1898, amounted to $41,612,000, against $39,191,000 in the preceding year.

In point of value the fleet ranks in the following order: Black and Azof, Caspian, Baltic, and White.

During the year 1897, 42 new steamers were added to the mer-

chant marine of Russia, of which 28 were built abroad and 14 in Russia, as shown in the following table:

Sea.	Number and tonnage of vessels built.			
	Abroad.		In Russia.	
	No.	Tons.	No.	Tons.
White	1	429.16	.....	.....
Baltic	2	357.86	7	353.66
Black and Azof	8	3,334.87	1	19.86
Caspian	17	10,203.35	6	2,428.47
Total	28	14,325.24	14	2,801.99

The machinery for one of the steamers built for the Baltic Sea and one for the Caspian Sea was imported.

The steamers of the Russian merchant marine are principally screw steamers with one engine, but a few are of larger dimensions, with two engines, chiefly on the Caspian and Black seas.

SAILING VESSELS.

The 158 new sailing vessels included in the list during 1897 were distributed as follows:

Sea.	Number.	Full tonnage.	Net tonnage.
White	55	3,324.23	3,150.45
Baltic	53	6,164.17	5,845.05
Black and Azof	21	890.33	841.28
Caspian	29	5,434.3	5,171.13
Total	158	15,813.03	15,007.91

During 1897, 72 sailing vessels were withdrawn from service, some being too old for service, while others were sold abroad.

The tonnage of vessels in use January 1, 1898, was distributed as follows:

Tonnage.	Number of sailing vessels.				
	White Sea.	Baltic.	Black and Azof.	Caspian.	Total.
Under 100 tons	363	297	628	110	1,398
100 to 200 tons	26	125	124	98	373
200 to 300 tons	2	90	14	98	205
300 to 400 tons	.....	54	5	59	118
400 to 500 tons	.....	11	.....	49	60
500 to 600 tons	.....	6	.....	25	31
600 to 800 tons	.....	2	.....	44	46
800 to 1,000 tons	.....	.....	.....	27	27
1,000 tons and more	.....	.....	.....	27	27

The above table shows that 61 per cent of the entire fleet has a tonnage less than 100 tons, 16 per cent has from 100 to 200 tons, and only 131 vessels have a tonnage exceeding 500 tons, chiefly on the Caspian Sea.

The weight of their cargo is stated as follows:

Sea.	Number.	Cargo.	
		On all the vessels.	Per vessel.
		Tons.	*Tons.*
White	395	34,972	89
Baltic	584	146,210	250
Black and Azof	768	100,116	130
Caspian	464	157,775	340
Total	2,211	439,073	.....

The value of the sailing fleet increased in 1897, through the addition of new vessels, $391,798. During the same year vessels were destroyed and sold to the amount of $192,550. On January 1, 1898, the commercial sailing fleet of Russia was estimated as follows:

Sea.	Number.	Value.
White	392	$579,580
Baltic	561	2,321,638
Black and Azof	766	2,090,000
Caspian	461	2,938,700
Total	2,180	7,929,918

The fleet of the Caspian Sea, which has several large vessels for transporting naphtha, is the most valuable; then follows that of the Baltic, Black, and Azof in their order.

Most of the sailing vessels of the Russian merchant marine are built in Russia, the following table showing the kind of timber used in their construction:

Timber.	Number of vessels.				
	White.	Baltic.	Black and Azof.	Caspian.	Total.
Oak	2	27	12	.....	41
Pine	13	229	10	352	604
Fir	.....	5	.....	1	6
Oak and pine	2	239	500	2	743
Pine and fir	361	22	.....	75	458
Wood not specified	16	54	179	25	274
Wood and iron	1	4	42	9	56
Other material	1	6	30	75	112

MEASURES TO PROMOTE MERCHANT MARINE.

The following regulations have been adopted by the Russian Government to promote its merchant marine:

(1) The law of May 29, 1897, requiring vessels carrying the Russian flag to have the privilege of sailing between Russian ports lying in the different seas.

(2) The law of April 27, 1898, imposing a duty on vessels built abroad.

(3) The law of June 2, 1899, extending the privilege of receiving the duty paid by Russian vessels in passing the Suez Canal.

(4) The purchase of foreign vessels with payment in installments.

WAR SHIPS.

From two to four battle ships are constantly in course of construction at the Russian shipyards; this has no effect whatever upon the cost of building vessels for the merchant marine.

CONTROL OF MERCHANT MARINE.

The merchant marine is controlled by two departments, belonging to the Ministry of Finances, viz, council of the affairs of the merchant marine and the department of commercial navigation, whose officers study merchant-marine service of the leading nations and advise with associations and persons interested in the Russian merchant-marine service.

The chambers of commerce and like associations are represented in the council of the affairs of the merchant marine by delegates selected for that purpose.

WAGES.

The shipbuilding industry in Russia, with the exception of the Government works for battle ships, is of little consequence; river steamers, tugs, etc., are built in small shipyards with Russian material and workmen. The material could be purchased abroad at less price, but the labor is cheaper in Russia; common workmen receive from 51 to 64 cents per day and skilled workmen from 77 cents to $1.

The wages paid per month on commercial vessels belonging to the Russian merchant marine are as follows:

Description.	Steamers.	Sailing vessels.
Able seamen	$13	$10.00
Boatswains	$13 to 17	.....
Carpenters	13	10.00
Quartermasters	15 to 20	.....
First mates	25 to 50	17.50
Second mates	20 to 30	.....
Firemen	10 to 13	.....
Coal passers	8 to 10	.....
Oilers	8 to 10	.....
First engineers	40 to 60	.....
Second engineers	20 to 40	.....
Third engineers	15 to 25	.....

W. R. HOLLOWAY,
Consul-General.

ST. PETERSBURG, *February 2, 1900.*

TRUST IN BLEACHING TRADE IN GREAT BRITAIN.

Consul Halstead writes from Birmingham, February 24, 1900:

The London Daily Mail has a chartered accountant's declaration that it has a daily circulation of one million two hundred and odd thousand copies. This means that it is of the enterprising type of newspaper, displaying each day extreme anxiety to gather all the news in the world which may interest the great masses of the people, and its selection of news for publication is naturally based on what it believes the people are desirous of reading. It is fair to accept the judgment of the management of this successful newspaper as to what the general public will read. I have called attention before to the fact that the constantly recurring announcements that another "trust" has been formed does not create alarm in Great Britain. Wednesday's edition of the London Mail refers to the formation of a bleaching trust with a capitalization of £10,000,000 or £12,000,000. This, in the judgment of the managing editor, is worthy of only one headline, twenty-two lines of nonpareil type, set solid. The Daily Mail article reads as follows:

BLEACHING-TRADE COMBINE.

The Lancashire bleaching trade will shortly be in the hands of a powerful company.

It is said that the combination will involve the capitalization of from £10,000,000 to £12,000,000 ($48,665,000 to $58,398,000), and the object in view is to prevent individual concerns from indulging in sharp practices, cutting prices, discounts, etc.

Individual businesses are to be taken over and worked from March 31 by the company, which will be known as the Lancashire Bleachers' Association, Limited, and the prospectus will probably be in the hands of the public soon after that date.

Experts are confident that there is no branch of the textile industries which will so well and profitably lend itself to the adoption of joint-stock-combination principles as that of the Lancashire bleaching trade.

A provisional committee has been appointed from among the members of the largest firms.

WALL-PAPER TRUST IN GREAT BRITAIN.

Under date of Birmingham, February 16, 1900, Consul Halstead says:

In a report sent some months ago,* I called attention to the fact that combinations of the kind which at home we call "trusts" are created here without attracting public attention or causing alarm, though no trouble is taken to keep the facts from getting to the public; and it is rare that one hears a voice raised against trusts. A wall-paper combination with £6,000,000 ($29,199,000) of capital is announced, and receives from the London Daily Mail, a newspaper which is very active in news gathering, only the scant attention of a two-line head, twenty-one lines of type set solid, and an inconspicuous position. The Mail article reads as follows:

The Association of Wall-Paper Manufacturers, after working jointly since September 30, are now preparing a prospectus, and an issue of capital will be made within the next few days.

The company is already registered with £4,000,000 of share capital, plus debentures, and the new issue will probably be £6,000,000.

Practically every maker of paper hangings in the Kingdom is stated to be embraced by the federation, including Scotch, Lancashire, Yorkshire, and London concerns. The chairman of the combination is W. P. Huntington, late member of Parliament for the Darwen division of Lancashire and sheriff of Lancashire.

Many important consolidations, adjustments, and economics have already been effected since the formation of the federation.

Consul Wilbour, of Dublin, under date of February 23, 1900, sends the following additional details:

The agreement requires every dealer in wall paper to buy all stock from the combination and to sell no other for a period of supposedly ten years. I understand some dealers objected to signing for more than one year, and some have not signed at all; but in the latter case they are members of the combination for all purposes, as, if they do not comply with the requirements not to sell outside makes, they will not be supplied with paper from the combination. This at present would be fatal to their business.

* ADVANCE SHEETS No. 547 (October 7, 1899); CONSULAR REPORTS No. 231 (December, 1899).

Some dealers are skeptical as to the ability of the combination to maintain a monopoly and keep prices firm. The prices have not been materially advanced (perhaps 5 to 15 per cent), except on low-grade goods, which were sold so cheaply that there was loss on every roll, as the competition in this class was particularly severe. In these goods, the percentage of advance is greater.

As prices are now adjusted a fair profit is secured, and production is controlled so as not to overstock the market.

While the agreement obliges the dealers to buy and sell the papers made by the combination, latitude is allowed with fixed limits to certain dealers, whose trade actually requires it, to use a certain amount of foreign-made paper; but in every case the dealer is held to a limited number of designs and must purchase the same through the combination.

In order for American papers to compete, it would seem to be necessary for the makers in the United States to come to some agreement with the combination. There is a class of papers made in the United States which is imitated in Great Britain and Germany, but is not as good. These papers are in gloss or satin finish, and can be sold at reasonable prices, while the imitations cost very much more.

The American papers should be made to suit the English markets, viz, 21 inches wide, instead of 18 inches, and 12 yards long, instead of 9 yards.

Prices are based on the weight of the paper and the number of times it has gone through the rolls.

SOAP TRUST IN GERMANY.

During the summer of last year, a trust of the soap manufacturers of the Rhenish provinces, Westphalia, Oldenburg, and Bremen was formed with the object of establishing uniform prices for soft soap. The intention was to extend the trust so as to embrace all the German manufacturers of soap, and soon those of Hesse, Hesse-Nassau and the Palatinate joined, and uniform prices were also established for hard soap, which resulted in an advance of about 14 per cent over former rates.

In the endeavor to force all manufacturers to join the trust, certain methods were employed which have been made the subject of legal proceedings. It is alleged that manufacturers who did not join were boycotted.

Essential raw materials for the manufacture of their products are palm oil and potash lye. The number of importers of palm oil and of manufacturers of potash lye is limited, and efforts were made by

the trust to enter into an agreement with them not to sell to soap manufacturers who were not members.

These efforts were directed mainly against the association of soap manufacturers of Stuttgart, who proved important competitors. The association was invited by the trust to join, under favorable terms; on its refusal it was threatened that it would be deprived of raw materials. In a circular of the manager of the trust, it was stated that for the suppression of competition a remedy had been tried which promised to be entirely successful. It was soon demonstrated what was meant, as all palm-oil dealers refused to sell to the Stuttgart association, although many of the firms comprising the association had for years dealt with them. Some of these palm-oil dealers stated openly that the soap trust had prohibited them to sell to the Stuttgart association.

The same method was tried with reference to potash lye, but was less successful, for the association succeeded in making contracts covering the year 1901.

Complaint has been lodged against two of the directors of the trust with the prosecuting state attorney at Stuttgart, and the decision of the court will be of great interest.

RICHARD GUENTHER,
Consul-General.

FRANKFORT, *January 29, 1900.*

SAFETY-FUSE TRUST IN GERMANY.

The eight safety-fuse manufacturers of Germany and the one of Belgium, at a meeting in Berlin on the 20th of October, 1899, formed what may be called a safety-fuse trust, which went into effect on the 1st day of January, 1900. These manufacturers have been compelled to take this step in order to protect themselves as a result of competition. The idea of pooling their interests was not a new one with them; indeed, they were only perfecting a plan which was started in 1880, when they entered into an agreement not to sell fuses except at uniform prices. First one manufacturer and then another broke the agreement in their efforts to secure orders, until in 1893 the manufacturers declared war upon each other, with the result that fuses were in many instances sold below the actual cost of production.

This state of affairs practically continued until the 1st of this month, when, as I said before, the new trust went into effect. Now, fuse manufacturers are confident that there will be a return of good times and of their ability to make handsome profits, whereas heretofore they have been compelled to run their factories at a loss.

The trust does not fix the market prices for fuses in all countries. In the United States, Mexico, Italy, Africa, Russian Poland, and England, they can be sold without regard to the prices which have been fixed by the trust. This is, of course, in order to allow German fuse manufacturers to compete with those of other countries.

As an immediate result of the formation of the safety-fuse trust, the prices in Germany have advanced about 25 per cent since the first of the year.

BRAINARD H. WARNER, Jr.,

LEIPZIG, *January 27, 1900.* *Consul.*

THE ENGLISH LANGUAGE IN EUROPE.

An American trade publication received at this consulate claims in its January number to have been advised that in some countries where it "expected other languages must of necessity be used in introducing American goods, English is altogether sufficient."

The phrase "some countries" means, of course, several countries at least, and so the average reader will understand that in any part of several foreign countries "English is altogether sufficient." This is true of only one European country—Great Britain and Ireland It is not true of Germany, France, Austria, Italy, or any other continental nation. English is sufficient in only small parts of any of them—for instance, Dresden, Germany. That city contains many American and English residents and visitors, and nearly every shopkeeper and professional person speaks the English language. There, probably, American goods could be successfully introduced with the use of English alone; but Dresden is exceptional. In nine-tenths of Germany, measuring by either population or area, poor success would reward attempts to do business with the English language alone. In Austria-Hungary, practically no business could be done with the use of nothing but English. The same applies generally to the other continental countries.

Every American consul on the Continent is struggling to convince his countrymen who wish to build up an export trade that they can not do it with circulars printed in English, which almost invariably go to fill wastebaskets. The consul argues that circulars must be in the language of the country to which they are sent, and that if personal solicitation is used, the agent must fluently speak the language of the country in which he labors.

It is true that knowledge of the English language is spreading, and it is possible that in a generation or so it can be successfully used in doing business with any part of Europe. It is also true

that some people in every town of considerable size have a smattering of English, but few of these people will take the trouble to read circulars printed in English. It takes too much effort. They talk a little, but will not bother to puzzle out the technical words in printed business matter, and the wastebasket is made use of by them as well as by people who do not know a word of English.

While several tongues are spoken in Austria-Hungary, German is sufficient for business purposes and should be used by Americans seeking to build up a trade with this nation. They can accomplish nothing by adopting the theory that "English is altogether sufficient."

FRANK W. MAHIN,
Consul.

REICHENBERG, *January 26, 1900.*

LIQUID AIR AS AN EXPLOSIVE.

Ever since it was demonstrated that liquid air could be readily produced on a commercial scale, it has been hoped and expected that one of the principal uses to which it would be applied would be that of an explosive material for blasting purposes, particularly in mines, where the new explosive would have the important advantages of safety in handling and of not vitiating the air, like gunpowder or dynamite, by the gases of ignition.

Some months ago a newspaper report announced that liquid air had been formally adopted for blasting purposes in the Government coal mines of Germany, but inquiry proved that this announcement was at least premature. The fact appears to be that experiments—more or less successful—have been made, especially by Professor Linde, of the Polytechnic High School at Munich, but no formal adoption of the new explosive by the Government bureau of mining industries has yet taken place.

Among the most systematic and interesting practical experiments thus far made in this direction has been the series of tests lately undertaken by the Vienna Crystal Ice Company, in the presence of experts from the Austrian technical committee for the War Department. The liquid air used in these tests was obtained from the Linde Company, at Munich, and shipped to Vienna in open flasks, provided with the Dewar vacuum jacket and packed with felt and cotton wrappings in wooden cases, with a loose cap of felt over the open mouth of each flask. When put up at the laboratory for shipment the liquid contained 75 per cent oxygen to 25 per cent nitrogen; but before it had reached Vienna and was used in the experiments, it had lost about half its bulk by evaporation, and

what remained contained 85 per cent oxygen to 15 per cent nitrogen. The absorbents used in preparing the cartridges were silicious marl (Kieselguhr) and "solar oil," and, according to the report, two methods of preparation were employed. By one process the marl and oil were mixed in a wooden vessel, and the liquid air gradually added until a stiff paste was formed, which was packed in paper cartridge shells covered with asbestus.

By the other plan, the mixture of marl and oil was put into the cartridge, which was inclosed in a lead case with a layer of felt between, and the liquid air then poured in until the paste was completely saturated. The cartridges prepared by both methods were safe and readily transportable, and their explosive power was tested by firing at the bottom of deep holes bored in rock. The results showed that while liquid air is an efficient explosive, it is less effective than dynamite, gun cotton, explosive gelatin, or giant powder.

The conclusions of the military experts were concisely as follows: Both methods of preparing the cartridges were pronounced wasteful, and in consequence of the rapid evaporation of the liquid air they must be used immediately after being prepared; beyond fifteen minutes the evaporation will so affect the cartridge that it is likely to miss fire and its strength can not be even roughly guaranteed. On the other hand, the cartridges when freshly prepared are powerful and well adapted to coal and other mining, and, while the large amount of oxygen set free by the firing of successive charges might increase the danger of explosion in the air and gases of the mine itself, the quality of the air for breathing purposes would be definitely improved.

The net conclusion to be derived from these and preceding experiments in Europe is that, notwithstanding the obvious advantages of liquid air as an explosive for mining purposes, the rapid deterioration of the cartridges and their varying and uncertain strength are obstacles so serious that, until they can be overcome, its value and application to that use will remain experimental and comparatively limited.

FRANK H. MASON,
Consul-General.

BERLIN, *January 27, 1900.*

WORKINGMEN'S AID SOCIETIES IN FRANCE.

A meeting of the presidents of the mutual-aid societies of the Rhone, recently held in Lyons, calls attention to a movement among the working classes of France, in the direction of solving the labor problem. There were present a number of high functionaries, one minister of the Government, senators, members of the lower house

of Parliament, judges of courts, bankers and other prominent business men, the mayor of Lyons, and representatives of the local and departmental governments.

These societies are organized under national laws, and are partly sustained by public funds. They are under the immediate supervision of the "superior council of mutual-aid societies." This council is a part of the Interior Department of the National Government, and is composed of thirty-six members, among whom are senators, members of the lower house of Parliament, officers of the financial, agricultural, labor and commerce ministries, and of the Academy of Medicine. It is believed in France that these associations will be effective in diverting workingmen from communism and attaching them more closely to the Republic, with which their interests are inseparably involved.

These workingmen's unions are the growth of over a century and are declared to be the final development of the scheme of liberty, equality, and fraternity announced in 1793. Societies of workingmen abounded before the Revolution, but they were abolished because their chiefs used them for their own personal aggrandizement, and they became a part of the despotism against which the Revolution was a protest. The Assembly declared that it was "the duty of the nation and of officials, in its name, to furnish work to the healthy and able-bodied, assistance to the infirm, and education to children." To the end that despotism—civil or religious—might find no secret conclave in which to plot, the Assembly prohibited the organization of all societies and "all groups of workingmen of the same trade." The guilds and various societies in the country at once disappeared.

Notwithstanding the rejection of petitions pleading for the permission to organize, 45 societies "composed of many different kinds of tradesmen" were reported before the end of the eighteenth century. In 1806, they numbered 90; in 1821, 124; and in 1830, 387. From 1830 to 1848, by encouragement and pecuniary assistance from the Government, the number rose to 1,100. At the end of the Second Republic, in 1852, they numbered 4,721, with 700,000 active members and 80,000 honorary members. Almost stationary under the Second Empire, new life was imparted to them by the advent of the Third Republic. In 1880, the mutual-aid societies numbered 6,500, with 900,000 members; in 1890, 8,000 with 1,200,000; in 1898, 12,000 with 2,000,000 members; and to-day, their membership foots up nearly 2,500,000. They have distributed over 700,000,000 francs ($135,100,000) to their needy members, have on hand over 300,000,000 francs ($57,900,000), and annually pay pensions to 60,000 aged pensioners.

Mr. Bleton, who presided over the meeting held in this city, said in his address that these societies "originated in a natural disposition among men to help each other, and were perpetuated by a profound sentiment of fraternity sustained by the National Government." Employers encouraged the movement, became honorary members, and contributed to the treasury. The speaker continued.

A society is the family enlarged. Women influence their husbands and their children to conform strictly to the regulations of the societies. Husband and wife enjoy equal rights in a society, are bound by the same duties, and the dignity of the family is enhanced by its association with the Government, whose officers become, in a measure, its direct financial managers.

There are two kinds of mutual-aid societies in France—free and approved.

The first has a legal existence, is empowered to receive gifts and legacies, and is under but one legal restriction, to wit, it can not hold real estate. It does not receive direct assistance from the State.

The approved society is under Government control. The Government appoints its president, but his name is generally proposed by the society. After a first meeting is held, a copy of the by-laws and constitution is deposited with the prefect for approval and remains there as a part of the archives. Any class of citizens—workingmen, clerks, small or large shopkeepers, girls or boys—can organize a society and have it approved. It must be proved that its members are able to pay the monthly dues, to give aid in sickness, and to deposit in the Government bank. This bank is called La Caisse des Dépots et Consignations. The money deposited is invested in Government bonds—national, departmental, or communal—which never draw more than 3 per cent interest. Sometimes the premium is so high that the interest is less than this figure; but the Government always appropriates enough to bring the interest up to 4½ per cent, which is left to accumulate for the old-age pension fund.

This pension fund has received numerous contributions, the most important being 10,000,000 francs ($1,930,000) from the estate of the Orleans family, confiscated in 1852. Cities, communes, and departments now and then appropriate a few hundred francs for a local society; employers give aid, at times; legacies are bequeathed to the societies; and at the end of every thirty years the unclaimed deposits in the savings banks are turned into the general fund.

The members of these societies may be men, women, and children from 3 years of age up to 50. A marked increase is noticed of late among the depositors ranging from 3 to 19 years of age. During the year 1898, that class represented 46.75 per cent of the total depositors. There were over 1,200 depositors among the school children of Roubaix and Tourcoing, and they all decided to enter

upon the enjoyment of their pension when they reached the age of 55. Nearly half of them were not over 10 years old. They calculated that, whatever might befall them, they could take care of themselves up to 55 years of age and keep up their deposits as a provision for the rest of their lives. Over half the depositors elect to begin living upon their pensions when 55 years old.

During 1898 what are called "collective accounts" represented the largest amount of deposits. These are accounts opened by large business concerns, railroad companies, banks, etc. The Crédit Lyonnais, a bank which has branches all over France, made 8,185 deposits for its employees. The Northern Railroad Company deposited a large sum, the product of contributions from all its employees, to which the company added an almost equal amount. The employees of the arsenals, manufactories of arms, foundries, and powder magazines earn about 5 francs (96 cents) per day, and 4 per cent of their wages is withheld every month and deposited as a pension fund. In the army, 5 per cent of the salaries of officers is withheld and deposited as a pension fund.

In a small circular, which is distributed broadcast among the workingmen of France, is a printed statement of the amount of annual pension which a man can enjoy at the age of 55, 60, or 65 years by a monthly deposit of sums ranging from 1 franc (19.3 cents) up; also, how much money must be deposited yearly to yield an income at 50 or 55 of 360 or 1,000 francs ($69 to $193). If a father deposits 100 francs ($19.30) for a child 3 years old, it will form a pension at 50, "reserved capital," of 41 francs ($7.91); "alienated capital," 51 francs ($9.84). At 60 years it will be 92 and 115 francs ($17.75 and $21.92); at 65, 153 and 190 francs ($26.82 and $36.67). "Reserved capital" reverts to the heirs if the principal dies before the date for enjoying the pension. "Alienated capital" goes to the general fund at the death of the principal.

An economy of 2 sous (2 cents) per day, or 36 francs ($6.95) per year, for sixteen years yields an income at 50, reserved capital, of 139 francs ($26.83); alienated capital, 208 francs ($40.14); at 55, 210 and 219 francs ($40.53 and $42.37); at 60, 331 and 509 francs ($63.88 and $98.28).

According to the bulletin recently published by the Government, the deposits made in 1898 numbered 2,284,224, amounting to 44,543,697 francs ($8,596,930). Ninety-one thousand six hundred and four new accounts were opened; 15,323,576 francs ($2,957,450) were paid to the heirs of depositors in the reserve fund. The grand total of receipts from May 11, 1851, to December 31, 1898, is 1,612,841,576 francs ($311,278,424).

Deposits can be made in every village where there is a post-office

or tax collector. No sum less than 1 franc (19.3 cents) is received; but, as postage stamps are accepted, many people begin by a 1-cent stamp, making the deposit when the savings amount to 20 cents. Not over 500 francs ($96.50) can be deposited by one person in one year. The pension up to 360 francs ($69.48) can not be seized for debt. If the pension is the result of a gift, it can not be seized for debt, however much it may exceed the 360-franc ($69.48) limit. If a wife and husband deposit in one account and one of them dies, the entire pension passes to the survivor. If an aged pensioner receives but 200 or 300 francs ($38.60 or $57.90) per year, he adds to this the franc a day, more or less, that he can earn as porter in an apartment house. The average wages of the porter are 200 francs ($38.60) per year and the use of two rooms. As people prefer old soldiers, porters are often retired gendarmes who have an army pension, an old-age pension from their economies, porter's wages, and free rent. The porter at the bank of the Dépots et Consignations, where all the pension business in Lyons is transacted, is 79 years old. He and his wife have 2,500 francs ($482.50) per year from pensions, rent free, and they deposit in the savings bank every month. There are 8,000 pensioners enrolled at the bank in Lyons; but the number is destined to grow very rapidly now, as it is made obligatory for employees of mills and factories to lay by from 1 to 2 francs (19.3 to 38.6 cents) per month, this sum being withheld from their wages.

Of the monthly dues paid into the mutual-aid societies, a small sum is withheld for the assistance of the sick. Those who are out of work for other cause than a strike receive a daily allowance from their society of from 1 to 2 francs.

The custom of making provision, by Government intervention, for the support of the aged and infirm is a natural outgrowth of French institutions. As a boy can not be drafted into the army if he is the only support of aged parents, the maintenance of the defense of the nation exacts that the number of the needy should be made as small as possible. As the Government takes possession of the boy for three years for army service at a time when he might be learning a trade and laying the foundation for a future livelihood, it deems it a duty to intervene in his behalf and aid him in providing for the day of need.

The Government withholds a certain percentage from the salary of army officers against the day when they will be on the retired list. Subordinate officers—lieutenants and captains—are not allowed to get married until they show to the satisfaction of the war department that the wife will bring 1,200 francs ($231.60) per year to the household. This rule is suspended only to legitimize children. The salary of a marshal of France is 30,315 francs ($5,850.80) per year,

but he only receives 28,800 francs ($5,558.40), the rest going into an old-age pension fund. Of the 19,894 francs ($3,839.54) which constitute the salary of a general of division, 994 francs ($191.84) is withheld. But if a general is located in a city like Paris or Lyons and is the military governor thereof, an important sum is added for his household expenses. The process of laying up a store for old age runs through the army until the private soldier is reached. He receives 6 cents per day for his services, 5 cents of which are withheld for board and lodging, leaving him 1 cent per day for spending money and his bank account, which he often invests in postage stamps.

JOHN C. COVERT,
Consul.

LYONS, *January 19, 1900.*

BRITISH TREATISE ON MALARIA.

The Liverpool School of Tropical Medicine has issued a book containing "Instructions for the prevention of malarial fever for the use of residents in malarious places."

The Times finds these instructions "of so simple and efficient a character and so well calculated to effect the purpose for which they are designed" that it repeats the leading facts. The article reads:

The fevers collectively termed malarial, which range from what was not uncommon in certain parts of England fifty years ago under the name of "ague" to the malignant and rapidly fatal forms met with in the Tropics, have constituted, perhaps, the chief impediment to the colonization by Europeans of many countries which in other respects appeared to be admirably adapted to undergo development under the influence of civilized immigrants. In some of these countries the native races are at least partially free from liability to the disease; but even when this is the case, and it is by no means universal, they are generally of a low type and of depressed vitality. Vast regions of Africa have long been regarded as almost necessarily fatal to white races, millions of acres in India are left without cultivation, and even Europe itself has been desolated over considerable portions of its service.

The Italian Campagna, so fertile and populous under the dominion of the Romans, has in modern times been reduced by malaria to an arid waste almost destitute of human inhabitants; and Wellington's army, when in Estremadura, was assailed with such severity as to threaten its very existence. In England during many periods of our history malaria has prevailed over wide districts, and even within living memory was not uncommon in the "fen country;" but not the least of the difficulties which it presented to inquirers was due to its constant tendency to disappear before drainage and cultivation. Chiefly from this cause it has been to so large an extent banished from our shores that English physicians have had but restricted opportunities of studying its phenomena, while the observers who have traced its course in foreign countries have worked out innumerable details with regard to its behavior, the varied climatic conditions under which it exists, its relation to soil, to altitude, and to vegetation, which were practically quite valueless until, within the last few years, the key was obtained to their interpretation. This

key has been afforded, at last, quite as much by improvements in instruments and methods of research as by increased diligence on the part of those by whom they were employed.

It has long been known that any continued prevalence of malarial fever was attended by the occurrence of extensive changes, apparently of a degenerative character, in the physical condition of the blood; and these changes, when they were made the subject of investigation by the aid of modern microscopes, were traced to the presence of parasites as invariable concomitants of the disease. Blood owes its color to the presence of innumerable minute bodies called its red corpuscles—bodies so minute and so numerous that a single cubic millimeter of blood contains an average of about five millions of them—and it is within these corpuscles that the parasites were discovered. Malarial fevers are characterized by definite exacerbations and intermissions; and it soon became apparent that these were severally coincident, in point of time, with successive stages of the life history of the parasite, each attack of fever denoting the hatching of a new brood and presenting the successive stages of shivering, of heat, and of sweating coincidently with their growth and development, at the conclusion of which each corpuscle which had been invaded by them perished and its function as a carrier of oxygen to the tissues was abolished. Unlike the now familiar vegetable parasites collectively called microbes, by which so many other diseases are occasioned, the parasite of malaria belongs to the animal kingdom; but, like the microbes, its numbers increase with amazing rapidity. Until they reach a considerable amount, the parasite would not be productive of serious symptoms; but, by the time an attack of fever is fairly established, these numbers often amount to something like two hundred and fifty millions, and thence would range upward to a billion. It has long been known that quinine was the most potent of all remedies for ague; and its administration at all sorts of times and in all sorts of doses had gradually led to the experimental determination of the conditions of its greatest efficacy; but, prior to the discovery of the parasite, it was regarded as being essentially "antiperiodic" in its effects—that is to say, as exerting some mysterious influence in preventing the rhythmical recurrence of morbid phenomena. The discovery of the parasite led to the further discovery that quinine cured ague simply by poisoning the parasite, and that it was most effective for this purpose when given in such doses and in such a way as to be present in the blood in sufficient quantities during a certain period of their growth. But it seldom killed them all, and more usually left a few individuals, perhaps more or less languishing, but still living and reproducing their kind, and capable of giving rise to a fresh attack of fever, even after the lapse of many months.

The next stage in the investigation was to ascertain through what channel the malaria parasite became introduced into the human body; and Dr. Patrick Manson, who had previously traced another form of infection to the mosquito, was, we believe, the first to suggest that this insect was the most probable delinquent. The investigations of Major Ross, to whose letter claiming priority we were glad to give insertion on Wednesday, finally established the correctness of the hypothesis. The particular mosquito concerned is of the species known to naturalists as *anopheles*, and the evidence of the crime is complete. He, or rather she, for the ladies of the family are the sole offenders, is furnished with salivary glands which secrete the poison which she injects into her bites. A female may be hatched from a captured larva, and fed for the first time by being permitted to bite a man suffering from fever. She will swallow one or more of the parasites or their spores as part of her meal, and, if kept in confinement, their life within her body may be observed. They ultimately find their way from her stomach to her salivary glands, and from these are injected with the poison into the blood of the next victim whom she may select or may be furnished with. The process can be watched from beginning to

end, and it constitutes a chain of morbid action of the most interesting and curious character, which, at the same time, completely clears up the whole question of the nature and causation of the fever.

All speculations about air, about soil, about "malaria belts," and the like have been rendered obsolete. There is no reason to believe that the parasite finds access to the human body through any other channel, or that the "gnats" or "mosquitoes" which infest regions free from malaria are examples of *anopheles*. If this particular insect could be extirpated, there is every justification for the hope that malarious fevers would disappear from the earth; and, fortunately, the extirpation does not seem likely to present any insurmountable difficulty. The eggs are laid in water, and the larvæ, when hatched, live in water for about a week before they assume the mosquito form. As larvæ, like those of the common gnat, they rise to the surface of the water to breathe; and a film of oil on this surface is speedily fatal to them by blocking up their air spiracles. The fully formed mosquito lives for many weeks, but is not presumed to travel far, and probably always obtains its food within easy reach of its native pool of water, to which it periodically returns for the purpose of depositing its eggs.

Much may be done, therefore, by drying up the pools in the vicinity of houses or by treating them once a week with a film of kerosene oil. Much may be done also by killing the mature insect when resting upon a wall after its meal; and it is to be noted that the true *anopheles* rests with its body almost at right angles to the surface of the wall, while the absolutely or comparatively harmless gnat rests with its body parallel to the wall, or even somewhat inclining toward it. The little book or pamphlet to which we refer contains instructions for identifying and destroying the *anopheles*, both in its adult and its larval forms; also for rendering habitation in the Tropics as safe as may be possible against its incursions. The whole of the few pages are written with admirable brevity and clearness and should enable Englishmen, armed in complete panoply of knowledge, to preserve their health in regions which have proved only too fatal to many generations of their predecessors.

MARSHAL HALSTEAD,

BIRMINGHAM, *February 9, 1900.* *Consul.*

CANADIAN MEAT AND POULTRY EXPORTS.

The magnitude of the business done between the United States and Canada in lambs and poultry is not realized by those not immediately connected with it. During the months of September, October, and November there were shipped from Canada 112,000 lambs, making altogether 560 carloads. These lambs were worth on the average $2.50 apiece, and the total value was therefore about $270,000. There was paid in duties on these lambs to the United States Government $90,000. They were handled by the New England Dressed Meat and Wool Company, of Somerville, Mass. The figures for the same period of 1898, however, show that in the corresponding months of that year there were sent across the line 129,228 lambs. These lambs come from all over Canada.

As regards poultry, there were 8,000 to 10,000 live geese shipped to the poultry yards of Charles M. Austin, of Mansfield, Mass.,

for feeding purposes. There have been seen at Sabrevois, in the Province of Quebec, as many as 11,500 live geese and 5,000 live ducks at one time, and it takes 125 bushels of grain a day to feed them. The firm of S. H. Jones, at Sabrevois, has had at one time as many as 25,000 geese and 15,000 ducks.

The American firms mentioned in this report make most of their purchases in the townships of the Province of Quebec, New Brunswick, and Prince Edward Island.

FELIX S. S. JOHNSON,
Commercial Agent.

STANBRIDGE, *February 8, 1900.*

HARDWARE IMPORTS INTO CANADA.

Consul Martin transmits from Amherstburg, February 9, 1900, extract from the Toronto Globe of February 9, 1900, relative to the hardware imports of Canada, as follows:

OUR HARDWARE IMPORTS.

The Ironmonger, a prominent London trade journal, has sent a special commissioner to inquire into the working of the preferential tariff and the prospects of the British hardware trade in Canada. The results of his investigations have been published from time to time and are now collected in a pamphlet issued as a supplement. A large part of the information published is technical, and it includes elaborate lists of shelf and heavy hardware, with the prices at which each line must be sold to secure Canadian trade. To this is added a number of illustrations showing varieties of cutlery and other shelf lines in demand in Canada and not turned out by British makers. The commissioner was careful to send home samples to show the British producers the needs of the Canadian market. In addition to technical information for the trade, there is considerable material of general interest regarding the course of the iron trade in the Dominion. The facts regarding the encroachment of American producers are set forth in a way calculated to impress the British manufacturers with the need of greater efforts than have been made in the past. In hardware, cutlery, and edged tools, the Canadian imports for the five years from 1882 to 1886 were: From the United States, $8,434,503, or 64 per cent, and from Britain, $4,759,913, or 36 per cent. During the year 1897, the imports from the United States were $1,338,218, or 79.1 per cent, and from Britain $353,494, or 20.9 per cent. These periods have been taken for purposes of comparison in other lines. Our imports of machinery from the United States increased from $7,355,114, or 74.6 per cent, for five years to $1,551,131, or 87.1 per cent, for one year, while from Britain there was a proportionate decrease from 25.4 per cent to 12.9 per cent. In castings and forgings, during the fifteen years commencing with 1882, Britain's share of Canadian trade has gone down from about $290,000 to $22,521, or more than nine-tenths, and her proportion has fallen from 44.6 per cent to 7 per cent. During the same period, the proportion of the trade secured by the United States has increased from 55.4 per cent to 93 per cent.

The decline in Britain's share of the trade in rails and railway supplies has been less marked, as the mother country still holds half the proportion of fifteen years ago; but the progress of the United States has been phenomenal. For the five

years from 1882 to 1886, the United States supplied the Canadian trade to the extent of $3,104,146, or 19.8 per cent, and Britain supplied $12,629,781, or 80.2 per cent. In 1897 our imports from Britain were valued at $880,029, or 55 per cent, and from the United States $721,217, or 45 per cent. During the same periods, our imports of pig iron from the United States increased proportionately from 36.1 per cent to 85.7 per cent, and from Britain they decreased from 67.9 per cent to 14.2 per cent. In the goods classed as "interchangeable mechanism," including sewing machines, firearms, and locomotive engines, the American proportion increased from 88.5 per cent to 96 per cent, while the British proportion declined from 11.5 per cent to 4 per cent. During the fifteen years under consideration Britain has sent about $1,000,000 worth of goods of this class to Canada, while the American producers have sent about ten times that amount across the border. In the general remarks of the commissioner, it is made evident that the British producers are affected by the influence of a long superiority easily maintained. The secret of German success in Canada lies in the thorough method in which the German has gone to work more than in price or quality. German firms are well represented in Canada, and their number is always being augmented. The German quotes goods delivered and duty paid to various centers in Canada.

The package question, too, is a source of much trouble. Cases in which German or American goods are sent are seldom charged for. The habit of placing on packages an exorbitant charge to insure their return is a policy which is justifiable when the customer resides within a reasonable distance from the works; but when 3,000 miles of water way—in addition to overland haulage—separates buyer and maker, it is the duty of the latter to be satisfied with the bare cost price for his empty cases.

An important feature is that the American is satisfied with smaller orders, and the buyer looks for equal attention and equal courtesy whether the order be a large or a small one. Importers are frequently offended by the manner in which some makers attempt to make them sensible of the obligation conferred by consenting to supply their wants. A Canadian retailer made up and sent to a Birmingham maker what was for him a large order. This was acknowledged in due course in the following caustic words: "We have received your order for a few goods." Not a syllable of thanks. This is in strong contrast to the attitude which would have been assumed by an American firm. A courteous note would have been received containing a brief word of thanks and some indication of the probable date of dispatch. The length of time taken to execute orders is another and serious cause of complaint. The Ironmonger's commissioner came across several cases where goods had been ordered in December and had not come to hand before July. In days of old that was submitted to, but quite a different order now prevails. The particular States where American hardware is produced are distant from Canadian centers only a few days by rail. Most of the makers there carry sufficient stock to execute orders on receipt, and in many cases the goods can be delivered before the order, if sent to England, could have reached the maker's hands. There is therefore every reason why special speed in dispatching should be extended to all Canadian orders. These facts, collected by an expert, and the thoroughly practical suggestions made, show that the British producer need no longer expect the market to accommodate itself to his wares and ways of business. He must meet the demands of the market if he would gain the benefits of Canada's effort toward closer trade relations.

NEW YORK AND OTTAWA RAILROAD.

The New York and Ottawa Railroad will be completed during the present year, and will be one of the most important routes between the United States and Canada. This road now runs from Cornwall to Ottawa (about 57 miles), and from Hogansburg to Tupper Lake (about 65 miles), and the intention is to extend it 60 miles to North Creek, and there connect with the Delaware and Hudson and New York Central at Albany. This line gives a direct connection from Ottawa to New York, Boston, Saratoga, Adirondacks, Lake Champlain, Massena (where millions are being spent in making a canal from the St. Lawrence to Grass River), and other points. The run from Ottawa to New York will be made in about ten hours—one and one-half hours less than the time from Montreal to New York. The placing of the northwestern portion of New York, Massachusetts, and Connecticut in such close touch with the Dominion, especially with the Province of Ontario, can not but produce good results to both countries and largely increase the trade between the United States and Canada.

JOHN E. HAMILTON,
Commercial Agent.

MORRISBURG, *February 20, 1900.*

NEW CANADIAN RAILWAY: SHORT GRAIN ROUTE.

The Quebec and Lake Huron Railway Company, which is asking a charter from the Canadian Government, promises to be a most important factor in the traffic between the Great Lakes and the Atlantic seaboard. The lines will start from the mouth of French River, on Georgian Bay, and run east to Quebec, crossing the Ottawa at Mattana, the Lievre River at Rapide de l'Original, and the St. Maurice at Grandes Piles. The distance from Georgian Bay to Quebec will be 440 miles, or 135 miles less than from Parry Sound, which is now the shortest route between the Great Lakes and Quebec. As regards the trade coming from Lake Superior and Lake Michigan, there will be a saving of 115 miles of navigation on Lake Huron. The water and rail transportation will therefore be 250 miles shorter by the proposed Quebec and Lake Huron Railroad than by the Parry Sound and Great Northern.

The new line will pass about 125 miles north of Montreal and run through the immense plateau of the Matawin, Rouge, Lievre, and Gatineau rivers, embracing over 3,000,000 acres of the forest and

farming lands of the Province of Quebec. Undoubtedly, the opening of a railway through this immense tract of arable lands will give a powerful impulse to colonization, as there is enough good farming ground in this plateau out of the reach of railroads to support a population of 500,000 souls.

The company proposes to build immense elevators at both ends of the line, and, regardless of cost, to build a road whose grades and curves will allow a modern locomotive to haul at least fifty loaded freight cars.

The capital of the company is $10,000,000 in shares and $13,200,000 in bonds. The main object of the promoters is to lessen the cost of transportation of grain and flour between the Western States and Europe. They expect to bring to Quebec for shipment by the St. Lawrence, either in grain or flour, between 30,000,000 and 50,000,000 bushels of wheat per year, and a great part of the 2,000,000 feet of lumber cut every year in the country traversed by their line. The new road will effect the utilization of the splendid forests of hard woods through which it will run, which are now unavailable because they can not be floated. It is also expected that numerous pulp and paper mills will be established along the line.

FELIX S. S. JOHNSON,
Commercial Agent.

STANBRIDGE, *February 10, 1900.*

PAPER, ALUMINIUM, AND COTTON MANUFACTURES IN QUEBEC.

The Shawinegan Water and Power Company, with headquarters in Montreal, is negotiating with foreign syndicates for the building of three large paper mills. The erection of at least one of these was decided upon several weeks ago, and the Government's new policy in regard to pulp wood, which is all in favor of the Canadian manufacturer, makes the erection of the two others a certainty. The company, in less than a year, has built a prosperous village of 1,500 people where no one had ever dreamed of settling, and within another twelve months Shawinegan Falls will be a thriving town of 5,000 people, while Three Rivers, a few miles below, has added a large cotton mill to its industry.

In spite of the inclement weather of the last fortnight, work is being pushed with vigor at the Falls, and the progress on the head race or canal and the big timber dam is particularly rapid. The company expects the excavations in the race to be completed by March 1.

The construction work on the power house of the Pittsburg Reduction Company is also progressing most satisfactorily, the total

number of men now employed being 1,400, besides 150 carters. The Pittsburg company, which controls the manufacture of aluminium in America, recently equipped the Chicago Electric Street Railway with aluminium wires; and the Manhattan Elevated Railway of New York, the motive power of which is being changed from steam to electricity, has also voted to use aluminium instead of copper in its wires, the metal to be furnished by the Pittsburg company. Aluminium, a few years ago, cost as much as $12 a pound; but through the reduction process this figure has been gradually lowered to 32 cents, with the result that it is now taking the place of other metals and even of wood in the manufacture of hundreds of articles of everyday use.

No doubt is entertained as to the ability of the Three Rivers cotton mills to successfully compete with those already existing in Canada. There are now thousands of people from the Three Rivers district employed in the New England cotton mills who would be only too glad to come back to their native land were they guaranteed steady employment and good wages. These operatives are among the most industrious, skillful, and conscientious in the world.

FELIX S. S. JOHNSON,
Commercial Agent.

STANBRIDGE, *February 9, 1900.*

COAL DISCOVERY IN QUEBEC.

A mineral discovery which may lead to important results has been made in the Laurentian Mountains. This is the unearthing of a seam of coal on the land of the Shawinigan Water and Power Company.

Quite by accident, and while working upon excavations on the St. Maurice River, the find was made. The cuttings necessary to form the headrace are extensive, and in sections a depth of 125 feet has been reached, measured from the top of the cliffs above. It was while upon this work that traces of coal were found. The sand was discovered to be thickly impregnated with coal dust, which in some untold age had managed to break away from the present body and drift down. Later, in the work of excavating for the headrace, a seam of coal was stumbled upon. This was tried in the furnaces and found to burn well. The strata bearing the coal is some 40 or 50 feet below the surface, and its extent remains to be seen. It is thought, however, that the main coal body is located perhaps a mile up the river from the place where the present discoveries have been made.

In appearance, the coal has all the properties of the anthracite, and is not unlike the Pennsylvania article, the difference being that it has more polish and is far more brittle. Experts who have seen the specimens pronounce it not unlike some of the Nova Scotia product.

The surrounding formation is, of course, entirely different from that in the anthracite regions of Pennsylvania. The shale and slate which surround the coal measures of the Keystone State are entirely lacking. Geologists have always maintained that no minerals existed in the Laurentian Mountains, and that those granite hills contained nothing more valuable than the iron-like stone of which they were formed.

The secretary of the Shawinigan Water and Power Company has in his office a specimen of the coal taken from the edge of the seam. In this piece, the coal is found clinging to the granite rock, much as a bit of moss does to the ordinary bowlder.

FELIX S. S. JOHNSON,
STANBRIDGE, *February 19, 1900.* *Commercial Agent.*

NOTES ON DAWSON AND CAPE NOME.

Business in Dawson this season has been very quiet, chiefly because the population is nearly 6,000 less than last year. Prices, however, remain firm, and an inquiry at several of the leading stores shows the following percentages of profit still obtaining: On drugs and medicines, 300 per cent; books and stationery, 500 per cent; boots and shoes, 150 per cent; clothing, 50 per cent; groceries, 200 per cent; hardware, 400 per cent. Champagne, any brand, sells at $240 per case of 1 dozen quarts; beer, in barrels containing 8 dozen bottles, $100 per barrel; whisky, $35 to $45 per case of 1 dozen bottles, or $40 to $60 per gallon.

In addition to the duty on liquors, there is a further tax of $2 per imperial gallon, called the "federal tax." Saloon licenses are worth $2,500 per annum. A singular feature in connection with these is a charge of $50 for an application for a license. If the application is denied, the $50 is not returned to the applicant. The revenue estimated by the finance committee of the Yukon council from liquor permits for the fiscal year ending June 30, 1900, is $100,000; for licenses, $90,000.

The flooding of many of the mines on the various creeks, as the result of the continuation of the mild weather early in the season, may have an effect upon the output for the year. It is still rather

early to venture on a forecast; but, taking into consideration the improved methods now employed, a conservative estimate places the figures at from $25,000,000 to $30,000,000.

Nineteen expeditions have left Dawson for the Nome district since December 4, 1899, and as the days lengthen and the weather moderates many more will start. It is reported here that 700 are now on the way from Skagway. Late news from Nome by mail from St. Michaels confirms the reports of the richness of the district, and also announces new finds in the interior; but lack of fuel prohibits these being worked in winter. Typhoid fever has made its appearance, and the mortality from this disease is increasing.

RONALD MORRISON,

DAWSON CITY, *January 14, 1900.* *Vice-Consul.*

NOTES.

American Wheat for Macaroni.—The Bureau of Foreign Commerce has received another letter from Mr. James B. Simpson, of Dallas, Tex., in regard to the wheat which was sent to France to be tested as to its fitness for use in the manufacture of macaroni and similar edible pastes.* Mr. Simpson says, in part:

> It has been demonstrated beyond question that all northern Texas is perfectly adapted to the growth of the hard, glutinous wheats now in such great demand in France and Italy. The grain I transmitted through your kindness to Consul Covert, of Lyons, upon analysis shows the value of this hard wheat to Texas. With the port of Galveston now open, giving us easy access to Marseilles, this wheat is calculated to revolutionize production here.
>
> But the difficulty lies in this: Our farmers here through negligence have mixed the hard and the starchy wheats, and we find it almost impossible to obtain the pure hard grain. I did the best I could in sending Consul Covert the 2 bushels for analysis and in sending 5 bushels at your request to the Paris Exposition, but all had some grains of soft wheat in it. If the farmers here could obtain the Taganrog hard wheat for seed, it would be but a few years before Texas would control the French and Italian markets in this hard wheat.

Wheat and Rye Crops in France.—Consul Atwell, of Roubaix, under date of February 2, 1900, says:

The Minister of Agriculture has just published an estimate of the present condition of the crops of wheat and winter rye sown this year. This year's acreage of wheat covers a surface of 6,826,916 hectares (16,869,509 acres), against 6,919,400 hectares (17,097,837 acres) last year. It is estimated that the production will be 121,349,000 hectoliters (344,385,624 bushels), against 129,005,560 hectoliters (366,117,778 bushels) last year. The acreage of winter rye sown this year is 1,440,702 hectares (3,559,974 acres); last year, 1,478,150 hectares (3,652,509 acres). Present prospects indicate a production of 22,606,700 hectoliters (64,157,815 bushels), against 24,652,800 hectoliters (69,964,646 bushels) last year, a decrease of 1,446,100 hectoliters (3,573,313 bushels).

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*See ADVANCE SHEETS Nos. 438 (May 29, 1899), 544 (October 4, 1899), and 646 (February 5, 1900); CONSULAR REPORTS Nos. 226 (July, 1899), 230 (November, 1899), and 234 (March, 1900).

Colonial School in France.—Consular Agent Harris, of Eibenstock, under date of February 12, 1900, writes:

A colonial institute is to be opened in Marseilles to prepare young men to fill positions in the French colonies. Expeditions of students will be sent out at the expense of the State, and commercial houses will receive the information thus obtained in the form of detailed reports. Instruction will be given in botany, zoology, natural history, colonial geography and history, etc. There will be a museum of plants, minerals, etc., so that the student may become acquainted with the actual products of the colonies; also, a school of medicine to familiarize him with diseases peculiar to tropical countries. It is probable that arrangements will be made for teaching oriental languages. For grounds and buildings, the city of Marseilles has donated $193,000.

Colonial Training in Belgium.—Consul Roosevelt writes from Brussels, February 23, 1900:

In view of the increasing prosperity in the Belgian Kongo, this Government is considering means of interesting the people in the subject of colonization. One of the most practical is the recent establishment at the Horticultural School, at Vilvorde, of a special department for the training of students who intend to seek a fortune in the colonies. There will be practical demonstrations of the sort of buildings a settler must construct and instruction in rules of sanitation. The cultivation of indigenous plants, as well as of European vegetables and plants, the best methods of gathering crops and transporting them to market where there is a demand for them, and the way to treat the native population, from which the labor supply must be drawn, will all be dealt with.

Glass Cutters' Strike in Belgium.—Consul Roosevelt writes from Brussels, February 9, 1900:

The glass cutters' strike at Charleroi, Belgium, remains stationary. In spite of the desire of a majority of the cutters to resume work, it is more than probable that they will allow themselves to be intimidated by the leaders of the strike. Manufacturers, on the other hand, announce their determination to put out the fires before submitting to the demands of the syndicate. It is anticipated that not less than sixteen furnaces in the Charleroi district will be extinguished to-day, which means a reduction of one-half the ordinary production and a clear loss in wages of 850,000 francs ($164,050) per month. It is interesting to note that once a fire is extinguished,

three weeks or a month must elapse before it can be rekindled. The cutters demand 5 per cent increase in wages, reinstatement of strikers in all the works, and six months' contract, with provision that workmen of advanced age shall not be replaced by apprentices, unless unable to cut the manufactured glass.

Coal Famine in Germany.—Consul-General Guenther writes from Frankfort, March 8, 1900:

There has never been a year in the history of Germany when greater demands were made upon the coal production. Although the output of 1899 was over 100,000,000 tons, against 96,000,000 tons in 1898 and 91,000,000 in 1897, the supply has been entirely inadequate, and much embarrassment and annoyance have resulted. The selling price of coal increased during 1899 over 1898 from 3 to 35 per cent; coke, from 90 to 95 per cent. The Minister of Commerce has sent a letter to the coal-mine owners of Upper Silesia, asking whether the production could be essentially advanced by an increase in the number of shafts at the mines, at the same time assuring them of State aid in case of an affirmative answer. The commission appointed by the Minister of Public Works to report concerning the repeal of the exceptional tariff on coal has agreed that there can be no question of making concessions for the importation of foreign coal generally, but that it is advisable to make exceptions in individual cases.

Krupp Iron Works.—Consul-General Guenther sends the following, dated Frankfort, January 29, 1900:

The total number of people employed by Krupp is at present 41,750, of whom 25,133 are at Essen, 3,458 in the Gruson steel works of Magdeburg Buckau, 2,726 in the German shipyards at Kiel, and 10,344 in various smelters and coal mines owned by Krupp. The foundation for these gigantic works was laid in 1810 by the grandfather of the present chief of the firm. Essen had then 4,000 inhabitants. It now has 105,528. The firm owns a large number of iron-ore mines, among them the great Bilbao mine in Spain. A railroad owned by Krupp takes the ore from the mine to the seacoast, and from there a line of four Krupp steamers conveys it to Rotterdam. The testing ground for guns at Meppen, belonging to the firm, has a target range of 72,000 feet. In 1892, the famous Gruson steel works at Buckau were purchased, and three years ago shipbuilding yards were started at Kiel, which, when completed, will employ 7,000 men.

German Company for Sale of Agricultural Machines.—The Department has received a communication from Consul Barnes, of Cologne, dated February 5, 1900, in regard to the formation of a company for the sale of agricultural machines and implements at that city. The prospectus of the company sets forth that agricultural industries in Germany have been crippled by the tendency of the farmers to move to the cities and by the unwillingness of those who have been in military service to return to occupations in the country. The demand for labor in factories, etc., is very large in the present season of prosperity, and the farms are thereby depleted. The result has been that landowners are buying agricultural machinery more largely than heretofore, especially in the Rhenish and Westphalian provinces. The financial condition of the farmers in these sections is good, and there are also several societies to furnish aid to those who need it. It is intended to open sale and exhibition rooms at Cologne, goods to be sent on consignment. The concurrence and support of American and English manufacturers are desired. The consul thinks that the enterprise will promote American interests. The parties concerned, he says, are reliable. The prospectus and statutes of the proposed company are filed for reference in the Bureau of Foreign Commerce.

The German Jute Industry.—Vice-Consul-General Hanauer sends the following from Frankfort, February 6, 1900:

The number of spindles working up jute yarns has increased from 73,226 in 1890 to 135,000 in 1899. The increase in the import of raw jute has not kept pace in this ratio, but jute yarns from abroad have obtained a larger market in Germany. The annual production of jute fabrics in Germany now amounts to 50,000,000 marks ($11,900,000) in value. The import of jute bags having in late years largely increased, the German manufacturers are asking for a change in the tariff rates on the bags, so that in future jute bags imported for baling sugar intended for export shall be made to pay duty. These manufacturers are now negotiating for the creation of a trust of jute manufacturers.

Tropical Hygienic Institute at Hamburg.—Consul-General Guenther, of Frankfort, on January 29, 1900, says:

The negotiations between the city of Hamburg and the Imperial German Foreign Office for the establishment of a tropical hygienic institute at Hamburg have been completed. According to agreement, an institute for ship and tropical diseases is to be opened on

October 1. Its purpose is to investigate these diseases, to serve as a preparatory school for physicians to go to German colonies in tropical climates, and for the study of hygienic questions. The head physician and his scientific assistants will be selected at Hamburg with the consent of the colonial department of the Foreign Office. The General Government will contribute to its support, while the city of Hamburg will have to furnish at all times as many beds as the colonial department may require. Dangerously contagious diseases, as pest, cholera, and smallpox, will not be treated in the institute. The senate of Hamburg has submitted the project to the city for approval and has also recommended an appropriation of about $31,500 for remodeling the hospital for sailors.

Machinery Exhibition at Christiania.—Consul Bordewich sends from Christiania, February 16, 1900, programme of the permanent machinery exhibition which has been opened in that city. Manufacturers, agents, and other interested parties are invited to exhibit. The metal, wood-working, spinning, and weaving industries will be represented, as well as works in paper, leather, rubber clothing, etc.; also engines. The programme sets forth that machinery, tools, etc., can be exhibited at a low rent in centrally situated rooms. Appliances can be shown in operation without extra expense for driving power. New and patented machinery and appliances may be exhibited and advertised cheaply and effectively. Catalogues of the exhibition will be distributed without extra expense to the exhibitors.

Mr. Bordewich advises that new inventions should be patented in that country before they are shown. Application for patent in Norway should be made within six months after patent is granted in the United States. Import dues are light. Goods should be sent knocked down, if possible, to save freight. For information, address the Alfheim Company, St. Olafsgade, 22, Christiania.

Demand for Automobiles in Russia.—Consul-General Holloway writes from St. Petersburg that the Russian Minister of War is desirous of purchasing a freight automobile, to be propelled by either steam or kerosene, and proposes that if any manufacturer will ship two such carriages, one for steam and the other for kerosene, to St. Petersburg, the War Department will pay the freight and duty on both, purchase the one best suited for its purpose, and return

the other. The machines are to be in St. Petersburg by June, 1900. Manufacturers will please send catalogues, giving weight, inside dimensions, price, rapidity of movement, and other data, to Col. N. A. Blinoff, chief staff, Ministry of War, St. Petersburg, Russia. Mr. Holloway suggests that the possibility for large orders to supply the Russian army, which is scattered over an area more than twice the size of the United States, with automobile wagons is worthy of attention.

Import of Plants and Fruits into Cape Colony.—Consul-General Stowe sends from Cape Town, February 7, 1900,* copy of the regulations affecting the importation of fruits and plants. A summary is given below:

The importation into the colony of grape vines or portions thereof is prohibited, except those imported by the government with such precationary measures as it may deem necessary.

All trees and plants, other than vines, and parts thereof, and all fruits of any description, and all tubers, roots, bulbs, or portions thereof, and packages, etc., containing the same, shall undergo strict examination by an officer to determine the absence of noxious insects and plant diseases; and the consignee must open packages, etc., to permit the examination to be made. Without a certificate from the officer showing the absence of insects or diseases, no articles such as those named can be entered. If insects or diseases are found, the consignee must cleanse or disinfect the plants or coverings as prescribed by the officer.

The importation of any stone-fruit tree, or any fruit, graft, cutting, scion, root, or seed, growth or produce thereof, from the United States or Canada is prohibited.

These regulations do not apply to canned or preserved fruits.

Mr. Stowe adds that a proposal is now under consideration to relax this prohibition in so far as regards any part of the United States where the diseases "peach yellows" or "peach rosette" do not exist.

Pearl Fishing in Sierra Leone.—The Department has received from Consul Williams, of Sierra Leone, under date of February 2, 1900, copy of a recent enactment creating a monopoly for the right of pearl fishing in the waters of the colony. The provisions read, in substance:

It shall be lawful for the governor in council from time to time to grant an exclusive right to any person for any period not exceeding five years to search for and gather pearls in all or any of the waters of the colony which are of 4 fathoms and greater depth, and also to grant to any person during such period the exclusive right of using diving apparatus in such waters for the purpose of searching for or gathering pearls.

* In reply to a request from the Secretary of Agriculture, to whom a copy of the report has been sent.

Every such grant shall be made upon such terms and conditions and subject to the payment of such royalty (if any) as may be deemed expedient, and when made shall be published in the Sierra Leone Royal Gazette.

All apparatus and appliances imported by a licensee or sublicensee under this ordinance for the purpose of searching for, gathering, or preparing pearls may be admitted free of customs duty.

During the period specified as aforesaid, it shall not be lawful for any person to search for or gather pearls in any of the protected waters of the depth aforesaid, without a written license from the Crown licensee interested therein; and any person who shall during such period search for or gather or attempt to search for or gather pearls in such waters and without such license shall be guilty of an offense against this ordinance.

Duties on Iron and Hardware in Sierra Leone.—Consul Williams sends from Sierre Leone, February 2, 1900, copy of an ordinance dated January 18, 1900, abolishing the duty on corrugated iron and placing that article on the free list, and imposing a tax of £10 on every £100 of the value of hardwares of any kind whatsoever imported or brought into the colony and landed or transshipped therein, either for home consumption or for the purpose of being carried up the Sierre Leone River, or any other river of the colony or protectorate.

Dues on Pulp Wood in Ontario.—Consul-General Turner writes from Ottawa, March 24, 1900:

In the local house of parliament at Toronto yesterday, the commissioner of Crown lands gave notice that the dues on pulp wood would be increased from 20 cents to 40 cents per cord on the 1st day of May next. This will be of interest to American owners of pulpwood lands in the Province of Ontario.

Beet-Sugar Manufacture in Canada.—Commercial Agent Johnson writes from Stanbridge, March 17, 1900:

The establishment of a $500,000 factory for the manufacture of beet-root sugar in Canada will, it is said, be shortly undertaken by American capitalists, who are working with Messrs. J. E. Askwith and James Fowler, of Ottawa, in the interests of the enterprise. The factory will be located in Ontario and will be capable of handling 500 tons of beets daily. The Canadian Government is to be asked to place a bounty on the production of beet sugar in Canada, and this, the promoters of the company claim, will insure the establishment in Canada of a great many other factories for making beet sugar.

Closing of Mines in British Columbia.—Consul Dudley sends the following from Vancouver, February 14, 1900:

At least four of the largest mines in the eastern portion of this Province have suspended work and discharged the labor. These four mines combined were shipping at least 4,000 or 5,000 tons of ore per week and, united, employed in the neighborhood of 1,000 men. The mines yield gold and copper. The managers give as a reason for closing down the necessity of introducing new machinery. The discharged miners, however, believe that the principal cause for the suspension of work is the eight-hour law, enacted by the last session of the provincial parliament, under which the miners have been receiving the same compensation for eight hours' work that they formerly received for ten. This action has temporarily crippled matters in the eastern portion of the Province, and will probably have the effect of sending miners seeking employment across the border to the United States.

Sawmill at Rimouski, Quebec.—Commercial Agent Boardman, of Rimouski, on February 12, 1900, writes:

Messrs. Price Bros. & Co., of Quebec, who have sawmills in this consular district at Amqui, Metan, Metis, and Trois Pistoles, are about to erect a large mill here. They will saw deals for the European market and ship the side boards and laths to the United States when the price will warrant it. This may offer a market for American mill machinery.

Ownership of Railroads in Nicaragua.—Under date of February 7, 1900, Consul Donaldson writes from Managua to a New York firm:*

All the railroads of Nicaragua belong to the Government, and are directly under the charge of the Minister of Fomento, Hon. S. Ramirez. He also has charge of all the steamboats except one line, which is managed by E. Nicol, agent, Greytown, Nicaragua. There are also two tramways managed by F. H. Davis, Rivas, Nicaragua, and the Granada Tramway Company, Granada, Nicaragua.

Progress of Salvador Railway.—Consul Jenkins, of San Salvador, on February 21, 1900, says:

The Salvador Railway, running from the port of Acajutla, through Sonsonate to Santa Ana, will be completed to San Salvador about the middle of March next and will be opened for traffic in the beginning

* To whom the letter has been sent.

of May. Trains will run to Acajutla from this city in the morning, returning the same day, giving merchants the opportunity to transact their business in the port in one day. The present method is to take the early train to Santa Tecla, go by mule or coach to La Ceiba, and thence by rail to Ateos, where a change of cars is made to reach Acajutla. Freight will receive one handling in lieu of two, and the bad treatment given goods in ox carts will be avoided.

Demand for Coal and Iron in Brazil.—Minister Bryan writes from Petropolis, February 1, 1900, in confirmation of his cablegram of January 30, in regard to the demand for coal in Brazil.* The president of the San Francisco Railroad, in the State of Bahia—Dr. Argolla—says Mr. Bryan, is inclined to make an experiment with 5,000 tons of bituminous coal, to be followed by further yearly orders if the trial prove satisfactory. Dr. Argolla, it seems, is a graduate of the Troy Polytechnic School and is desirous of promoting United States interests in Brazil. He thinks that structural iron for railroads and steel rails, if once introduced, would find an exclusive market. He therefore solicits catalogues and price lists of iron manufactures.

Waterworks in Madeira.—Consul Jones sends from Funchal, March 12, 1900, pamphlets (in French) giving the plans for the proposed waterworks and sewerage systems of Funchal. Mr. Jones thinks that some of our contractors may wish to make a bid.

The price is fixed at 190,000 milreis ($205,200) for the waterworks and 170,000 milreis ($183,600) for the drainage system. The pamphlets are filed for reference in the Bureau of Foreign Commerce, where they may be examined by interested parties.

Request for Dried Apples and Salmon in France.—Consul Brittain, of Nantes, under date of February 27, 1900, writes:

M. Charles Beuchet, of No. 46 rue Gigant, Nantes, is anxious to obtain the name of some responsible exporter who will sell him dried apples, better known as chops. These apples are cut in thin slices—seeds, skins, and stems—then dried and packed in old sugar barrels for shipment. They are used in making a cheap drink by the poorer class among the French. The same gentleman wishes to obtain the name of American exporters of other dried fruits, and also the names

*See ADVANCE SHEETS No. 644 (February 2, 1900); CONSULAR REPORTS No. 234 (March, 1900).

of reliable salmon packers of the Pacific coast. He has been purchasing salmon from packers in Canada. Persons wishing to increase their foreign market in the above lines should open correspondence with him at once.

American Lard in Mainz.—Under date of March 6, 1900, Consul Schumann transmits the following:

The State penitentiary of this city in advertising for bids for supplies, among other articles requests 2,200 pounds of lard, either German or American (white-label brand). This is certainly very gratifying, taking into consideration that only a few years ago American lard was practically tabooed in this city and great efforts were made to prohibit its sale.

Proposed American Warehouse at Calcutta.—Consul-General Patterson writes from Calcutta, January 25, 1900:

I am constantly receiving letters regarding the manufactures of the United States, inquiring how such manufactures can be procured, and requesting to be put in communication with our exporters. The imports into India last year amounted to about $270,000,000, and this is the great distributing point.

The National Association of Manufacturers of the United States is doing efficient and practical work in the way of extending the foreign trade of the United States by establishing warehouses at Caracas, Venezuela, and Shanghai, China, for the display and sale of goods made by members of the association. I have no doubt that if such a warehouse were established in Calcutta, with agents authorized to make sales, a very large trade would result.

American Buggies in New South Wales.—Consul Goding, of Newcastle, under date of January 16, 1900, writes that through the personal efforts of that office buggies manufactured in the United States have been introduced. By the outgoing mail there were ordered six different styles of buggies. The orders are each accompanied by a draft for the amounts. Mr. Goding trusts that this will lead to a considerable business in buggies, etc., between the colony and the United States.

Japanese Emigration.—Consul-General Gowey, of Yokohama, on January 25, 1900, sends a clipping from the Japan Times of the same date, giving statistics relative to Japanese emigration. It appears

that Japanese emigrants abroad at present are distributed as follows: In Hawaii, 40,000; in Australia, 4,000; in Canada, 4,000; and in Peru, 1,000. Besides these, there are, of course, a large number of Japanese emigrants in China and Korea. There are twelve emigration establishments in Japan and two more in course of formation.

Mining Privileges in Japan: Patent Medicines.—Minister Buck writes from Tokyo, under date of March 3, 1900, that at the session of the Japanese Diet just closed there was a change in the mining regulation, by which the privileges of mining were extended to foreigners organized as juridical persons under Japanese law. This, adds the minister, may be regarded as a sign of a liberal attitude toward foreigners.

A bill for controlling foreign patent medicines was also passed.

International Plate-Glass Trust.—Consul-General Guenther writes from Frankfort, March 8, 1900:

According to the Cologne Gazette, a draft of by-laws for an international plate-glass trust has been unanimously agreed to by the German plate-glass manufacturers. As it has already been approved by the plate-glass manufacturers of France and Belgium, the international trust can be considered a fact.

Importation of Masse into the Netherlands.—Under date of February 27, 1900, Minister Newel transmits from The Hague copy of a royal order relating to the importation of masse, and decreeing that the same, in pieces not exceeding 50 grams in weight and when destined for the purpose of strengthening yarns, may be admitted free of import dues. In the provisions against abuse of the privilege, it is decreed that the manufacturer shall make special application to the Minister of Finance, who shall determine the quantity to be admitted per annum; that the removal to the factory shall be effected under seal, the Government officials supervising the mixture of the masse with other material immediately on its arrival in the factory.

Excise on Wines in the Netherlands.—Minister Newel sends from The Hague, February 16, 1900, copy of a recent law providing that henceforth all fermented drinks wholly or partially prepared

from the sap or extracts from grapes, raisins, currants, and all other dried or fresh fruit shall be comprehended under the term wine. Wines made in the country, except those from grapes, shall be exempt from excise.

Financial Conditions in Guadeloupe.—Consul Aymé writes from Guadeloupe, under date of March 2, 1900, in regard to the precarious condition of the Banque de la Guadeloupe, which, it seems, may be forced to liquidate. The bank is no doubt solvent and could rapidly redeem its paper in coin, says the consul, but the demand of the treasury for coin and the fight for a lowering of the rate of exchange have placed it in a difficult position. Some of the main business houses would not be affected, but the credit of others would be shaken, and Mr. Aymé advises caution on the part of United States merchants for some time to come.

Increase of Port Dues in Guadeloupe.—Under date of April 12, 1900, Consul Aymé, of Guadeloupe, cables that port charges are more than doubled in that island, and that interested parties should be advised.

Increase of British Preferential Tariff in Canada.—Consul-General Turner writes from Ottawa, March 24, 1900, that in a speech recently made before the House of Commons, the Minister of Finance stated that the preferential tariff on articles of British manufacture had been increased from 25 to 33⅓ per cent.

Consular Reports Transmitted to Other Departments.—The following reports from consular officers (originals or copies) have been transmitted since the date of the last report to other Departments for publication or for other action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
E. Scheegans, Saigon	Jan. 18, 1900	Rice market	Department of Agriculture.
Do	Jan. 30, 1900	do	Do.
Do	Feb. 15, 1900	do	Do.
J. C. Higgins, Dundee	do	Dairying	Do.
D. J. Vail, Charlottetown	Mar. 24, 1900	do	Do.

FOREIGN REPORTS AND PUBLICATIONS.

Coal Crisis in Russia.—The following is summarized from a British Foreign Office report (No. 523, miscellaneous series):

The output of native coal in Russia has enormously increased of late years; at the same time the import of the foreign article has steadily risen, and this in spite of duties, till at the present moment the import of foreign coal has become of such urgent necessity that the duties have had to be temporarily reduced, or remitted altogether. In the Donetz basin alone, it is estimated that this year there will be a deficit of 30,000,000 poods* in the supply as compared with the demand, and in the Dombrovski basin 20,000,000 poods, or altogether close to 1,000,000 tons.

With the great increase in the industrial output of Russia of recent years, we see at the same time a rapid rise in the yield of native coal, from 1,774,193 tons in 1877 to 12,032,258 tons in 1898. The output in 1899 has probably been 800,000,000 poods (12,903,226 tons).

The increase of imported coal has been from 1,532,258 tons in 1877 to 3,161,290 tons in 1898, while the total for 1899 will doubtless be considerably larger. The two main coal-producing centers are the Donetz basin, in the south, and the Dombrovski basin, in Poland. Besides these, but yielding far inferior supplies, are the Ural district (of almost illimitable possibilities), the Tula and other central provinces, the Kuznetski basin in Siberia, the Trans-Caucasian and other districts yet practically undeveloped. It is true that the Russian coal supplies are generally of inferior quality.

The Donetz basin, including part of the government of Ekaterinoslav and part of the province of the Cossacks of the Don, in the south of Russia, is one of the richest in the world, with practically inexhaustible resources, calculated to produce yet some 860,250,000,000 poods (13,875,000,000 tons) or, allowing for progressive output, enough to last for eight hundred years. With 254 mines, it yielded in 1897 over 355,000,000 poods (5,887,096 tons) of coal, in addition to 59,435,600 poods (958,638 tons) of anthracite. During 1899, the increase here alone was over 1,000,000 poods (16,129 tons). Over 80 per cent of the output comes from 15 great mines. The Donetz basin has to compete with Polish coal coming to Kief, British in the Black Sea, and with naphtha fuel in the Moscow region. The coal is not of first-rate quality, having a high percentage of ash and sulphur.

The Dombrovski basin, in Poland, is a continuation of the great Silesian coal basin and covers an area of some 800 square versts. The coal is inferior to that of the Donetz basin. The output of 20 mines in 1897 was 230,000,000 poods (3,709,677 tons), compared with 120,000,000 poods (1,935,483 tons) in 1880.

The Ural mines are of extraordinary richness, but the coal is of very moderate quality. It can be used for boilers, locomotives, etc. Three-fourths of the output is used by neighboring railways. With the extension of railway communications, this coal region will develop enormously. The chief lines urgently needed and projected are (1) a main line to Moscow and the south, (2) the Viatka-Vologda-St.

*62 poods=1 ton.

Petersburg line, (3) the Cheliabinsk-Tsaritzin line. The output has risen from 10,000,000 poods in 1887 to 22,500,000 poods in 1894 and 22,000,000 poods in 1899.

The Eskibastus, on the west bank of the Irtish, south of Omsk, has an estimated reserve of 200,000,000,000 poods (3,225,800,000 tons), also of moderate quality.

The Kusnetski basin, in the government of Tomsk, Siberia, which the Siberian Railway will help to develop; the Tula and central districts of European Russia; and the Caucasian (Ikoibulsk) district—all with very moderate yields—are the remaining coal regions of Russia worth mentioning.

In the present crisis, the following are among the temporary measures taken by the Government to ward off the effects of the general scarcity:

Odessa has been authorized to import 96,774 tons of foreign coal for household purposes at a reduced rate of duty (1½ copecks the pood,* instead of 6 copecks) till January 1-14, 1901. Similar reductions have been made at other ports of the Black Sea and Sea of Azof for fuel of steamers, etc. The free import of foreign coal has been authorized for the needs of the population of Warsaw, as also for all the Russian railways till September 1-14 next, for railway uses only.

At Warsaw, wholesale dealers have been summarily ordered, under heavy penalties, not to keep prices above 1.15 rubles the korzer of 6 poods (59 cents per 216.6 pounds), while, it is said, seventeen of the largest dealers have been placed under police supervision. The result in general has not been entirely successful, and the Government has had to send across the frontier for Silesian coal and has been unable to obtain it, owing to transport difficulties as well as to lack of surplus supplies there.

While the development of the industrial activity of Russia and the extension of railways have been, perhaps, the main causes, they are by no means the only explanation of the present scarcity of coal. The coal-mining industries themselves are not developed enough to meet the demand, while insufficient means of transport play an important part in the situation. The activity of syndicates, by limiting production, and the speculation which of late has attended the coal and other industries of Russia are important factors. It is recognized that organic improvements all round, at the mines and in the methods of transportation, have become urgent. Some of the papers urge the permanent abolition of duties on foreign coal and coke, but the commission now investigating the subject at St. Petersburg has declared that the question of remission of duties could not be considered. Others propose that the State itself, as a great railway owner, should have its own mines and work the railways from them.

The Sewing-Machine Trade in China.—The Board of Trade Journal, London, February 15, 1900, quotes from the Handels Museum as follows:

The present time offers a favorable opportunity for sewing-machine manufacturers to find a market for their goods in China. By introducing sewing machines into China and opening the Chinese markets to this important industry, the Americans have already paved the way for European manufacturers. The Chinese tailors in the large coast towns, such as Shanghai and Hongkong, have made use of sewing machines for some time; a tailor not using one would find it impossible to compete with his fellow-tradesman. As a rule, these machines are of American origin. Machines for export to China should not be expensive. Sewing machines

*0.7 cent per 36.112 pounds.

should, too, be of fairly simple construction, and those worked by hand are preferable to those worked by the feet, as the price of the latter machine is considerably increased by the cost of the stand, the greater packing, and freight charges. A further reason that sewing machines for export to China should be of simple construction arises from the fact that repairs have to be effected by native artisans, usually clock makers, whose knowledge of machinery is limited, and who, except in rare cases, fail to grasp the working of a complicated mechanism. If the sale of sewing machines in the interior of China is to be developed, the presence of agents and artisans able to carry out repairs becomes a necessity. Sewing machines for export to China should be as cheap as is consistent with a fairly good quality. Attention should be given to make each separate part as durable as possible, so that repairs would seldom be needed, and this would commend the machine to native buyers. The issue of a short prospectus in Chinese would also be of advantage; this should give a brief description of the machines and information as to their use, oiling, cleaning, etc., as well as hints as to smaller repairs. A few spare parts should also be sent with each machine. It would be well to intrust the business of sale in China to one of the larger commission houses established in one of the ports and having branches in different towns, and to send the firm several samples of the make or makes of machine it is desired to sell.

Cotton Piece Goods in Mexico.—The following data are from a British Foreign Office report (No. 2336, annual series):

The production of cotton piece goods throughout the country in 1898 was 9,875,764 pieces, containing about 237,000,000 square yards. Nearly 47,500,000 yards of cottons are also imported, of which the principal qualities are coarse bleached and unbleached piece goods, such as shirtings and sheetings (nearly 20,000,000 yards) and coarse prints (17,000,000 yards), used in a great measure by the working class. The native Indian women still keep to the use of a material made by hand, composed of cotton and wool. In addition to the piece goods, the factories also produced 3,795,466 pounds of cotton yarn, which is in great demand for the making of "rebozos," a species of scarf worn by the women of all classes—by the better class as a wrap in their houses, instead of shawls, and by the poor as the only covering for their head when in the street or when working in the fields.

The cottons also show an increase in value of nearly $214,000, the largest increase being in cotton thread, in skeins or hanks, used for making the above-mentioned article—the rebozo—especially those of finer qualities. The following tables show the quantity, in square yards, and the quality of foreign piece goods imported into Mexico during the fiscal years 1892–93 and 1897–98:

Cotton piece goods, bleached or unbleached, of smooth texture, not exceeding 30 threads of warp and weft in a square of 5 millimeters (three-sixteenths of an inch).

Country.	Quantity.	
	1892–93.	1897–98.
	Square yards.	*Square yards.*
Great Britain	11,246,620	18,082,251
United States	1,917,104	3,257,321
France	514,146	805,535
Germany	183,607	125,048
Other countries	5,517	12,653
Total	13,866,994	22,282,808

Cotton piece goods, bleached or unbleached, of smooth texture, over 30 threads of warp and weft in a square of 5 millimeters (three-sixteenths of an inch).

Country.	Quantity.	
	1892–93.	1897–98.
	Square yards.	*Square yards.*
Great Britain	1,664,075	1,549,457
United States	264,976	214,200
France	214,208	101,245
Germany	56,027	24,836
Other countries	2,360	2,719
Total	2,201,646	1,892;457

Cotton printed goods, not exceeding 30 threads of warp and weft in a square of 5 millimeters (three-sixteenths of an inch).

Country.	Quantity.	
	1892–93.	1897–98.
	Square yards.	*Square yards.*
Great Britain	9,895,212	10,266,860
United States	2,981,454	4,407,570
France	473,110	1,016,139
Germany	470,893	536,382
Other countries	47,676	81,150
Total	13,868,345	16,308,101

Cotton printed goods, over 30 threads of warp and weft, in a square of 5 millimeters (three-sixteenths of an inch).

Country.	Quantity.	
	1892–93.	1897–98.
	Square yards.	*Square yards.*
Great Britain	279,467	610,740
United States	96,176	82,593
France	88,378	68,401
Germany	28,718	35,268
Other countries	5,567	28,714
Total	498,306	825,716

Cotton piece goods of all kinds not of a smooth surface.

Country.	Quantity.	
	1892–93.	1897–98.
	Square yards.	*Square yards.*
Great Britain	2,680,470	3,015,244
United States	1,514,108	2,170,147
France	454,683	822,360
Germany	409,661	549,066
Other countries	4,151	73,236
Total	5,063,073	6,630,053

Cotton Spinning and Weaving Industries in Brazil.—A British Foreign Office report (No. 511, miscellaneous series) has the following:

In the year 1895, there were 134 cotton manufactories in Brazil, distributed geographically as follows:

State.	Number.	State.	Number.
Maranhão	16	Rio de Janeiro	14
Piauhy	1	Capital Federal	15
Ceara	4	São Paulo	10
Rio Grande do Norte	1	Parana	2
Parahyba	1	Santa Catharina	7
Pernambuco	5	Rio Grande do Sul	2
Alagoas	2	Minas-Geraes	37
Sergipe	4	Total	134
Bahia	12		
Espirito Santo	1		

Some of these factories have now ceased to exist; others are working on a reduced scale. In the year 1899, there were 18 cotton factories in operation in the city and State of Rio de Janeiro, using 279,666 spindles and 9,900 looms. They consume annually more than 12,000,000 kilograms (26,455,200 pounds) of cotton, and their output in 1899 was 120,910,000 meters (131,791,900 yards) of cloth. Brazilian cotton is used in combination with other descriptions to give greater strength to the yarn, and by mixing it with North American or Egyptian cottons excellent yarns up to No. 70 (English classification) can be obtained. German manufacturers are said to use a considerable quantity of Brazilian cotton, preferring it for their fine yarns to North American qualities of shorter staple, on account of the fineness, length, and strength of its fiber. Unfortunately, the cultivation of cotton in Brazil has been neglected, and the manner in which it is selected and prepared for export leaves much to be desired. The demand for it in other countries is therefore now much smaller than in former times. The valley of the River Itapicuru, from Caxias to the city of Maranhão, and the zone to the south of Bahia behind Valença and Cancanui, in the neighborhood of the River Contas, are said to be districts peculiarly suitable for its cultivation.

Agricultural Machines in Costa Rica.—The Nachrichten für Handel und Industrie, Berlin, February 6, 1900, quotes from the Moniteur Officiel du Commerce, as follows:

Coffee forms the chief agricultural product of Costa Rica, the yearly production amounting to from 12,000 to 15,000 tons. The cultivation of coffee requires few agricultural tools; spades and knives (machetes) are about the only ones. The same may be said of the culture of sugar cane, cacao, maize, and beans. The soil is light and rich, so that there is little need for plows or even hoes. The introduction of American plows on the banana plantations near Limon has been successful. There is more demand for machinery and apparatus for the preparation of the gathered coffee than for agricultural machinery proper. The special machinery for the decortication of coffee comes almost exclusively from the United States, with a very little from Great Britain, and amounts to thousands of dollars annually. The sugar industry, the wood-export trade, narrow-gauge railways, and mines offer a

considerable market for machinery, which the United States has completely absorbed. The Americans, who are endeavoring to usurp the trade with Central and South America, flood Costa Rica with advertising sheets, send agents to interview the planters, to study their needs and machinery, and to receive orders. The Costa Rican Government has several times raised the tariff duty in the interest of agriculture. This duty is levied on the gross weight; the packing must therefore be as light as possible. The payment of delivered machinery is in cash or with three, six, or nine months' credit, according to agreement. As the country is embarrassed at the present time, on account of the low price of coffee, it is advisable not to grant very long terms of credit.

Agricultural Machinery in Guatemala.—A recent edition of the Moniteur Officiel du Commerce says:

Agricultural machinery proper is little used in Guatemala. The nature of the soil and the method of its cultivation are not adapted to its use. The only agricultural tools for which there is any considerable demand are hoes, axes, and knives (machetes). These are supplied by the United States and Great Britain. Motors water wheels, turbines, machinery used in the culture of coffee and sugar cane and for sugar manufactories find a sale in Guatemala and Central America. The United States and Great Britain rule the market also in these; still, there is room for other nations. Agents to take commissions at a fixed price, give estimates of cost, etc., are needed. Machinery should be put up in packages of not over 200 pounds in weight—the average load of pack mules. The terms of payment are one-third of the cost on delivery, the rest from six to nine months, according to the credit of the buyer. Seventy per cent of the duty is paid in the money of the country, and 30 per cent in gold.

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PUBLICATIONS OF THE BUREAU OF FOREIGN COMMERCE.*

The publications of the Bureau of Foreign Commerce, Department of State, are:

I.—COMMERCIAL RELATIONS, being the annual reports of consular officers on the commerce, industries, navigation, etc., of their districts.

II.—CONSULAR REPORTS, issued monthly, and containing miscellaneous reports from diplomatic and consular officers.

III.—ADVANCE SHEETS, CONSULAR REPORTS, issued daily, except Sundays and legal holidays, for the convenience of the newspaper press, commercial and manufacturing organizations, etc.

IV.—EXPORTS DECLARED FOR THE UNITED STATES, issued quarterly, and containing the declared values of exports from the various consular districts to the United States for the preceding three months.

V.—SPECIAL CONSULAR REPORTS, containing series of reports from consular officers on particular subjects, made in pursuance to instructions from the Department.

Following are the special publications issued by the Bureau prior to 1890:

Labor in Europe, 1878, one volume; Labor in Foreign Countries, 1884, three volumes; Commerce of the World and the Share of the United States Therein, 1879; Commerce of the World and the Share of the United States Therein, 1880–81; Declared Exports for the United States, First and Second Quarters, 1883; Declared Exports for the United States, Third and Fourth Quarters, 1883; Cholera in Europe in 1884, 1885; Trade Guilds of Europe, 1885; The Licorice Plant, 1885; Forestry in Europe, 1887; Emigration and Immigration, 1885–86 (a portion of this work was published as CONSULAR REPORTS No. 76, for the month of April, 1887); Rice Pounding in Europe, 1887; Sugar of Milk, 1887; Wool Scouring in Belgium, 1887; Cattle and Dairy Farming in Foreign Countries, 1888 (issued first in one volume, afterwards in two volumes); Technical Education in Europe, 1888; Tariffs of Central America and the British West Indies, 1890.

The editions of all these publications except Tariffs in Central America, etc., are exhausted and the Department is, therefore, unable to supply copies.

In 1890, the Department decided to publish reports on special subjects in separate form, to be entitled SPECIAL CONSULAR REPORTS. There are now the following SPECIAL CONSULAR REPORTS:

Vol. 1 (1890).—Cotton Textiles in Foreign Countries, Files in Spanish America, Carpet Manufacture in Foreign Countries, Malt and Beer in Spanish America, and Fruit Culture in Foreign Countries.

Vol. 2 (1890 and 1891).—Refrigerators and Food Preservation in Foreign Countries, European Emigration, Olive Culture in the Alpes Maritimes, and Beet-Sugar Industry and Flax Cultivation in Foreign Countries.

Vol. 3 (1891).—Streets and Highways in Foreign Countries. (New edition, 1897.)

Vol. 4 (1891).—Port Regulations in Foreign Countries.

Vol. 5 (1891).—Canals and Irrigation in Foreign Countries. (New edition, 1898.)

Vol. 6 (1891 and 1892).—Coal and Coal Consumption in Spanish America, Gas in Foreign Countries, and India Rubber.

Vol. 7 (1892).—The Stave Trade in Foreign Countries and Tariffs of Foreign Countries.

Vol. 8 (1892).—Fire and Building Regulations in Foreign Countries.

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* Formerly Bureau of Statistics. Name changed to Bureau of Foreign Commerce by order of the Secretary of State, July 1, 1897.

Vol. 9 (1892 and 1893).—Australian Sheep and Wool and Vagrancy and Public Charities in Foreign Countries.

Vol. 10 (1894).—Lead and Zinc Mining in Foreign Countries and Extension of Markets for American Flour. (New edition, 1897.)

Vol. 11 (1894).—American Lumber in Foreign Markets. (New edition, 1897.)

Vol. 12 (1895).—Highways of Commerce. (New edition, 1899.)

Vol. 13 (1896 and 1897).—Money and Prices in Foreign Countries.

Vol. 14 (1898).—The Drug Trade in Foreign Countries.

Vol. 15 (1898).—Part I. Soap Trade in Foreign Countries; Screws, Nuts, and Bolts in Foreign Countries; Argols in Europe, Rabbits and Rabbit Furs in Europe, and Cultivation of Ramie in Foreign Countries. Part II. Sericulture and Silk Reeling and Cultivation of the English Walnut.

Vol. 16 (1899).—Tariffs of Foreign Countries. Part I. Europe. Part II. America. Part III. Asia, Africa, Australasia, and Polynesia. (Part III not yet published.)

Vol. 17 (1899).—Disposal of Sewage and Garbage in Foreign Countries; Foreign Trade in Coal Tar and By-Products.

Vol. 18 (1900).—Merchant Marine of Foreign Countries.

Of these SPECIAL CONSULAR REPORTS, Australian Sheep and Wool, Cotton Textiles in Foreign Countries; Disposal of Sewage, etc.; Files in Spanish America, Fire and Building Regulations, Gas in Foreign Countries, India Rubber, Lead and Zinc Mining, Malt and Beer in Spanish America, Port Regulations, Refrigerators and Food Preservation, Soap, etc.; Sericulture, etc.; Vagrancy, etc., are exhausted, and no copies can be supplied by the Department.

There was also published, in 1899, Proclamations and Decrees during the War with Spain, comprising neutrality circulars issued by foreign countries, proclamations by the President, orders of the War and Navy Departments, and war decrees of Spain.

Of the monthly CONSULAR REPORTS, many numbers are exhausted or so reduced that the Department is unable to accede to requests for copies. Of the publications of the Bureau available for distribution, copies are mailed to applicants without charge. In view of the scarcity of certain numbers, the Bureau will be grateful for the return of any copies of the monthly or special reports which recipients do not care to retain. Upon notification of willingness to return such copies, the Department will forward franking labels to be used in lieu of postage in the United States, Canada, the Hawaiian Islands, and Mexico.

Persons receiving CONSULAR REPORTS regularly, who change their addresses, should give the old as well as the new address in notifying the Bureau of the fact.

In order to prevent confusion with other Department bureaus, all communications relating to consular reports should be carefully addressed, "Chief, Bureau of Foreign Commerce, Department of State, Washington, U. S. A."

VALUES OF FOREIGN COINS AND CURRENCIES.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

The fact that the market exchange value of foreign coins differs in many instances from that given by the United States Treasury has been repeatedly called to the attention of the Bureau of Foreign Commerce. An explanation of the basis of the quarterly valuations was asked from the United States Director of the Mint, and under date of February 7, 1898, Mr. R. E. Preston makes the following statement:

"When a country has the single gold standard, the value of its standard coins is estimated to be that of the number of grains fine of gold in them, 480 grains being reckoned equivalent to $20.67 in United States gold, and a smaller number of grains in proportion. When a country has the double standard, but keeps its full legal-tender silver coins at par with gold, the coins of both gold and silver are calculated on the basis of the gold value.

"The value of the standard coins of countries with the single silver standard is calculated to be that of the average market value of the pure metal they contained during the three months preceding the date of the proclamation of their value in United States gold by the Secretary of the Treasury. The value of the gold coins of silver-standard countries is calculated at that of the pure gold they contain, just as if they had the single gold standard.

"These valuations are used in estimating the values of all foreign merchandise exported to the United States. The value of the Indian rupee, although calculated according to law at the value of the pure metal contained therein, has a commercial value above the value of the silver bullion; consequently the value for customs purposes is determined in each case by the consular certificates attached to the invoice of exports from that country to the United States."

The following statements, running from January 1, 1874, to April 1, 1900, have been prepared to assist in computing the values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. When it is taken into account

that the ruble of Russia, for instance, fluctuated from 77.17 cents in 1874 to 37.4 cents in April, 1897, such computations are wholly misleading. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1890, and in the quarterly valuations thereafter.

To meet typographical requirements, the quotations for the years 1876, 1877, 1879, 1881, 1882, and 1891–95 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz: (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

A.—*Countries with fixed currencies.*

The following official (United States Treasury) valuations of foreign coins do not include "rates of exchange."

Countries.	Standard.	Monetary unit.	Value in U.S. gold.	Coins.
Argentine Republic*.	Gold and silver..	Peso.....	$0.96,5	Gold—Argentine ($4.82,4) and ½ Argentine; silver—peso and divisions.
Austria-Hungary†.....	Gold	Crown.....	.20,3	Gold—20 crowns ($4.05,2) and 10 crowns.
Belgium	Gold and silver..	Franc.....	.19,3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil.....	Gold	Milreis.....	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British North America (except Newfoundland).	.....do	Dollar.....	1.00	
British Honduras.....	.....do	.....do	1.00	
Chile.....	.....do	Peso.....	.36,5	Gold—escudo ($1.25), doubloon ($3.65), and condor ($7.30); silver—peso and divisions.
Costa Rica.....	.....do	Colon.....	.46,5	Gold—2, 5, 10, and 20 colons; silver—5, 10, 25, and 50 centisimos.
Cuba	Gold and silver..	.....do	.92,6	Gold—doubloon ($5.01,7); silver—peso (60 cents).
Denmark.....	Gold	Crown.....	.26,8	Gold—10 and 20 crowns.
Egypt.....	.....do	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland.....	.....do	Mark.....	.19,3	Gold—10 and 20 marks ($1.93 and $3.85,9).
France	Gold and silver..	Franc.....	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany	Gold	Mark.....	.23,8	Gold—5, 10, and 20 marks.
Great Britain.....	.....do	Pound sterling...	4.86,6½	Gold—sovereign (pound sterling) and half sovereign.
Greece.....	Gold and silver..	Drachma.....	.19,3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti	.....do	Gourde.....	.96,5	Silver—gourde.
Italy.....	.....do	Lira	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Japan‡.....	Gold.....	Yen.....	.49,8	Gold—1, 2, 5, 10, and 20 yen.
Liberia	.....do	Dollar.....	1.00	
Netherlands§.....	Gold and silver..	Florin	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Newfoundland	Gold	Dollar.....	1.01,4	Gold—$2 ($2.02,7).
Portugal.....	.....do	Milreis.....	1.08	Gold—1, 2, 5, and 10 milreis.
Russia‖.....	.....do	Ruble.....	.51,5	Gold—imperial ($7.718) and ½ imperial ($3.80); silver—¼, ½, and 1 ruble.
Spain.....	Gold and silver..	Peseta.....	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway.	Gold	Crown.....	.26,8	Gold—10 and 20 crowns.
Switzerland	Gold and silver..	Franc.....	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey	Gold	Piaster.....	.04,4	Gold—25, 50, 100, 200, and 500 piasters.
Uruguay	Gold	Peso.....	1.03,4	Gold—peso: silver—peso and divisions.
Venezuela.....	Gold and silver..	Bolivar.....	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

* In 1874 and 1875, the gold standard prevailed.

† The gold standard was adopted October 1, 1892. (See CONSULAR REPORTS No. 147, p. 623.) Values are still, however, frequently expressed in the florin or gulden, which is worth 2 crowns or 40.6 cents.

‡ Gold standard adopted October 1, 1897. (See CONSULAR REPORTS No. 201, p. 259.)

§ See note to table of fluctuating currencies.

‖ For an account of the adoption of the gold standard, see Review of the World's Commerce, 1896-97, p. 254.

B.—*Countries with fluctuating currencies, 1874–1890.*

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1875.	1878.	1880.	1883.	1884.
Austria-Hungary*.	Silver	Florin	$0.47,6	$0.45,3	$0.45,3	$0.41,3	$0.40,1	$0.39,8
Bolivia	do	Dollar until 1890; boliviano thereafter.	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Central America	do	Peso	.96,5	.91,8	.91,8	.83,6	.....	.....
China	Silver	Haikwan tael	1.61	1.61	.....	.....	.....	.....
Colombia	do	Peso	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Ecuador	do	do	.96,5	.91,8	.91,8	.83,6	.81,2	.80,6
Egypt†	Gold	Pound (100 piasters).	.....	.....	4.97,4	4.97,4	4.90	4.90
India	Silver	Rupee	.45,8	.43,6	.43,6	.39,7	.38,6	.38,3
Japan	Gold	Yen	.99,7	.99,7	.99,7	.99,7	.....	.....
	Silver		.....	.....	.....	.....	.87,6	.86,9
Mexico	do	Dollar	1.04,7½	.99,8	.99,8	.90,9	.88,2	.87,5
Netherlands‡	Gold and Silver.	Florin	.40,5	.38,5	.38,5	.40,2	.....	.....
Peru	Silver	Sol	.92,5	.91,8	.91,8	.83,6	.81,2	.80,6
Russia	do	Ruble	.77,17	.73,4	.73,4	.66,9	.65	.64,5
Tripoli	do	Mahbub of 20 piasters.	.87,09	.82,9	.82,9	.74,8	.73,3	.72,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1885.	1886.	1887.	1888.	1889.	1890.
Austria-Hungary*.	Silver	Florin	$0.39,3	$0.37,1	$0.35,9	$0.34,5	$0.33,6	$0.42
Bolivia	do	Dollar until 1880; boliviano thereafter.	.79,5	.75,1	.72,7	.69,9	.68	.85
Central America	do	Peso	.....	.....	.....	.69,9	.68	.85
Colombia	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Ecuador	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Egypt†	Gold	Pound (100 piasters).	4.90	4.90	4.94,3	4.94,3	4.94,3	4.94,3
India	Silver	Rupee	.37,8	.35,7	.34,6	.32,2	.32,3	.40,4
Japan	Gold	Yen	.....	.....	.99,7	.99,7	.99,7	.99,7
	Silver		.85,8	.81	.78,4	.75,3	.73,4	.91,7
Mexico	do	Dollar	.86,4	.81,6	.79	.75,9	.73,9	.92,3
Peru	Silver	Sol	.79,5	.75,1	.72,7	.69,9	.68	.85
Russia	do	Ruble	.63,6	.60,1	.58,2	.55,9	.54,4	.68
Tripoli	do	Mahbub of 20 piasters.	.71,7	.67,7	.65,6	.63	.61,4	.76,7

* The silver standard prevailed in Austria-Hungary up to 1892. The law of August 2 of that year (see CONSULAR REPORTS No. 147, p. 623) established the gold standard.

† The Egyptian pound became fixed in value at $4.94,3 in 1887.

‡ The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

C.—*Quarterly valuations of fluctuating currencies.*

Countries.	Monetary unit.	1897.				1898.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Bolivia	Silver boliviano.	$0.47,4	$0.46,8	$0.44,3	$0.41,2	$0.42,4	$0.40,9	$0.41,8	$0.43,6
Central America.	Silver peso	.47,4	.46,5	.44,3	.41,2	.41,4	.40,9	.41,8	.43,6
China	Amoy tael	.76,7	.75,7	.71,7	.66,4	.68,5	.66,2	.67,6	.70,6
	Canton tael	.76,5	.75,5	.71,5	.66,4	.68,3	.66	.67,4	.70,4
	Chefoo tael	.73,3	.72,4	.68,6	.63,7	.65,5	.63,3	.64,6	.67,5
	Chinkiang tael	.74,9	.73,9	.70	.65,1	.66,9	.64,6	.66	.69
	Fuchau tael	.70,9	.70	.66,3	.61,6	.63,4	.61,2	.62,5	.65,3
	Haikwan tael	.78	.77	.73,1	.67,8	.69,7	.67,3	.68,8	.71,8
	Hankau tael	.71,7	.70,8	.67,1	.62,3	.64,1	.61,9	.63,2	.66
	Ningpo tael	.73,7	.72,8	.68,9	.64	.64,3	.63	.65	.67,9
	Niuchwang tael.	.71,9	.71	.67,2	.62,5	.65,9	.62	.63,4	.66,2
	Shanghai tael	.70	.69,1	.65,5	.60,8	.62,6	.60,4	.61,7	.64,5
	Swatow tael	.70,8	.69,9	.66,2	.61,5	.63,3	.61,1	.62,4	.65,2
	Takao tael	.77,2	.76,2	.72,2	.67	.66	.66,6	.68	.71
	Tientsin tael	.74,3	.73,4	.69,5	.64,6	.66,4	.64,1	.65,5	.68,4
Colombia	Silver peso	.47,4	.46,8	.44,3	.41,2	.42,4	.40,9	.41,8	.43,6
Ecuador	do	.47,4	.46,8	.44,3	.41,2	.42,4	.40,9	.41,8	.43,6
India*	Silver rupee	.22,5	.22,2	.21,1	.19,6	.20,1	.19,1	.19,9	.20,7
Japan	Silver yen	.51,1	.50,5						
Mexico	Silver dollar	.51,5	.50,8	.48,2	.44,6	.46	.44,4	.45,4	.47,4
Persia	Silver kran	.08,7	.08,6	.08,2	.07,6	.07,8	.07,5	.07,7	.08
Peru	Silver sol	.47,4	.46,8	.44,3	.41,2	.42,4	.40,9	.41,8	.43,6
Russia	Silver ruble	.37,9	.37,4						

Countries.	Monetary unit.	1899.				1900.	
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.
Bolivia	Silver boliviano.	$0.43,9	$0.43,4	$0.44,3	$0.43,6	$0.42,7	$0.43,6
Central America	Silver peso	.43,9	.43,4	.44,3	.43,6	.42,7	.43,6
China	Amoy tael	.71	.70,2	.71,6	.70,5	.69,1	.70,5
	Canton tael	.70,8	.70	.71,4	.70,3	.68,9	.70,3
	Chefoo tael	.67,9	.67,2	.68,4	.67,4	.66,1	.67,4
	Chinkiang tael	.69,3	.68,6	.69,9	.68,9	.67,5	.68,8
	Fuchau tael	.65,6	.65	.66,2	.65,2	.64	.65,2
	Haikwan tael	.72,2	.71,4	.72,8	.71,8	.70,3	.71,7
	Hankau tael	.66,4	.65,7	.67	.66	.64,7	.65,9
	Ningpo tael	.68,2	.67,5	.68,8	.67,8	.66,5	.67,7
	Niuchwang tael.	.66,5	.65,9	.67,1	.66,1	.64,8	.66,1
	Shanghai tael	.64,8	.64,1	.65,4	.64,4	.63,1	.64,4
	Swatow tael	.65,5	.64,9	.66,1	.65,1	.63,9	.65,1
	Takao tael	.71,4	.70,7	.72	.71	.69,6	.70,9
	Tientsin tael	.68,8	.68	.69,4	.68,3	.67	.68,3
Colombia	Silver peso	.43,9	.43,4	.44,3	.43,6	.42,7	.43,6
Ecuador	do	.43,9	.43,4	.44,3	.43,6	.42,7	.43,6
India*	Silver rupee	.20,8	.20,6	.21	.20,7	.20,3	.20,7
Mexico	Silver dollar	.47,7	.47,2	.48,1	.47,4	.46,4	.47,3
Persia	Silver kran	.08,1	.08	.08,2	.08	.07,9	.08
Peru	Silver sol	.43,9	.43,4	.44,3	.43,6	.42,7	.43,6

*The commercial value of the rupee to be determined by consular certificate.

FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalents.
Almude	Portugal	4.422 gallons.
Ardeb	Egypt	7.6907 bushels.
Are	Metric	0.02471 acre.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentine Republic	25.3175 pounds.
Do	Brazil	32.38 pounds.
Do	Cuba	25.3664 pounds.
Do	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do	Venezuela	25.4024 pounds.
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons
Arshine	Russia	28 inches.
Arshine (square)	do	5.44 square feet.
Artel	Morocco	1.12 pounds.
Baril	Argentine Republic and Mexico	20.0787 gallons.
Barrel	Malta (customs)	11.4 gallons.
Do	Spain (raisins)	100 pounds.
Berkovets	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bouw	Sumatra	7,096.5 square meters.
Bu	Japan	0.1 inch.
Butt (wine)	Spain	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do	India (Madras)	500 pounds.
Cantar	Morocco	113 pounds.
Do	Syria (Damascus)	575 pounds.
Do	Turkey	124.7036 pounds.
Cantaro (cantar)	Malta	175 pounds.
Carga	Mexico and Salvador	300 pounds.
Catty	China	1.333⅓ (1⅓) pounds.
Do*	Japan	1.31 pounds.
Do	Java, Siam, and Malacca	1.35 pounds.
Do	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do	Darmstadt	110.24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do	Nuremberg	112.43 pounds.
Do	Prussia	113.44 pounds.
Do	Sweden	93.7 pounds.
Do	Vienna	123.5 pounds.
Do	Zollverein	110.24 pounds.
Do	Double or metric	220.46 pounds.
Chih	China	14 inches.

*More frequently called "kin." Among merchants in the treaty ports it equals 1.33⅓ pounds avoirdupois.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Coyan	Sarawak	3,098 pounds.
Do	Siam (Koyan)	2,667 pounds.
Cuadra	Argentine Republic	4.2 acres.
Do	Paraguay	78.9 yards.
Do	Paraguay (square)	8.077 square feet.
Do	Uruguay	Nearly 2 acres.
Cubic meter	Metric	35.3 cubic feet.
Cwt. (hundredweight)	British	112 pounds.
Dessiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	Half ounce.
Egyptian weights and measures	(*See* CONSULAR REPORTS No. 144.)	
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.
Do	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail (raisins)	Spain	50 pounds.
Frasco	Argentine Republic	2.5096 quarts.
Do	Mexico	2.5 quarts.
Fuder	Luxemburg	264.17 gallons.
Garnice	Russian Poland	0.88 gallon.
Gram	Metric	15.432 grains.
Hectare	do	2.471 acres.
Hectoliter:		
Dry	do	2.838 bushels.
Liquid	do	26.417 gallons.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	6 feet.
Kilogram (kilo)	Metric	2.2046 pounds.
Kilometer	do	0.621376 mile.
Klafter	Russia	216 cubic feet.
Koku	Japan	4.9629 bushels.
Korree	Russia	3.5 bushels.
Kwan	Japan	8.28 pounds.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,480 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	113⅜ bushels.
Do	Spain (salt)	4,760 pounds.
League (land)	Paraguay	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Castilian	7,100 grains (troy).
Do	Argentine Republic	1.0127 pounds.
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1 0161 pounds.
Do	Mexico	1.01465 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.
Liter	Metric	1.0567 quarts.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1⅞ acres.
Do	Nicaragua and Salvador	1.727 acres.
Marc	Bolivia	0.507 pound.
Maund	India	82⅔ pounds.
Meter	Metric	39.37 inches.
Mil	Denmark	4.68 miles.
Do	Denmark (geographical)	4.61 miles.
Milla	Nicaragua and Honduras	1.1403 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.84 pounds.
Do	Hungary	3.0817 pounds.
Do	Turkey	2.85418 pounds.
Do	Hungary and Wallachia	2.5 pints.
Pic	Egypt	21¼ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133⅓ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands (hemp)	139.45 pounds.
Do	Philippine Islands (sugar)	140 pounds.
Pie	Argentine Republic	0.9478 foot.
Do	Castile	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentine Republic	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile, Chile, Mexico, and Peru	101.61 pounds.
Do	Greece	123.2 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Do	Metric	220.46 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5¾ pounds.
Sagen	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	0.02451 acres.
Seer	India	1 pound 13 ounces.
Shaku	Japan	11.9305 inches.
Sho	do	1.6 quarts.
Standard (St. Petersburg)	Lumber measure	165 cubic feet.
Stone	British	14 pounds.
Suerte	Uruguay	2,700 cuadras (see cuadra).
Sun	Japan	1.193 inches.
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.25 acre.
To	do	2 pecks.
Ton	Space measure	40 cubic feet.
Tonde (cereals)	Denmark	3.94783 bushels.
Tondeland	do	1.36 acres.
Tsubo	Japan	6 feet square.
Tsun	China	1.41 inches.
Tunna	Sweden	4.5 bushels.
Tunnland	do	1.22 acres.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Vara	Argentine Republic	34.1208 inches.
Do	Castile	0.914117 yard.
Do	Central America	32.87 inches.
Do	Chile and Peru	33.367 inches.
Do	Cuba	33.384 inches.
Do	Curaçao	33.375 inches.
Do	Mexico	33 inches.
Do	Paraguay	34 inches.
Do	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.663 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
Centigram ($\frac{1}{100}$ gram) equals 0.1543 grain.
Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
Gram equals 15.432 grains.
Decagram (10 grams) equals 0.3527 ounce.
Hectogram (100 grams) equals 3.5274 ounces.
Kilogram (1,000 grams) equals 2.2046 pounds.
Myriagram (10,000 grams) equals 22.046 pounds.
Quintal (100,000 grams) equals 220.46 pounds.
Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measures.

Milliliter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
Liter equals 0.908 quart.
Decaliter (10 liters) equals 9.08 quarts.
Hectoliter (100 liters) equals 2.838 bushels.
Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measures.

Milliliter ($\frac{1}{1000}$ liter) equals 0.0388 fluid ounce.
Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
Liter equals 1.0567 quarts.
Decaliter (10 liters) equals 2.6418 gallons.
Hectoliter (100 liters) equals 26.417 gallons.
Kiloliter (1,000 liters) equals 264.18 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.
Meter equals 39.37 inches.
Decameter (10 meters) equals 393.7 inches.
Hectometer (100 meters) equals 328 feet 1 inch.
Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
Are (100 square meters) equals 119.6 square yards.
Hectare (10,000 square meters) equals 2.471 acres.

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THE RUSSIAN PETROLEUM TRADE.

The statistics show much more work done in 1899 than in 1898, with, however, less satisfactory results, as in 1898 the average daily production per well was 199 barrels, while in 1899 it was only 174 barrels. The increase in the daily average gross production in 1899 over 1898 was about 13,000 barrels, and, as the average number of wells producing was 212 more than in 1898, the increase in gross production per well was only 66 barrels per day, against 142 barrels in 1898. The production of the wells finished in 1899 was also much less than the production of the wells finished in 1898, as, while in the latter year the initial production of 258 wells finished averaged 653 barrels per well per day, in 1899 the production of 370 wells completed averaged only 202 barrels per well per day. This decline was principally due to the fact that there were fewer large flowing wells in 1899 than in the previous year, and can not be considered to indicate a very serious falling off in the territory, because those remarkably big flowing wells are possible at any time, and the result in 1900 may be quite as favorable as it seemed unfavorable in 1899.

Another feature of the production worthy of attention is the fact that, notwithstanding 456 wells were started drilling in 1898 and 598 in 1899, only 370 wells were completed in the latter year, and that, notwithstanding 370 wells were completed, there were only 223 more wells producing in December, 1899, than in that month in 1898. The facts point rather conclusively to the opinion that, unless some more of the former phenomenally large wells of previous years are struck in 1900, there is little chance of much increase in the production, because the limit of drilling operations possible has probably been reached; and with nothing more than the average wells of 1899

resulting from the new work, it seems unlikely that there can be a material increase in the production in 1900.

While it is impossible to ignore the possibility of large flowing wells being brought in any day, at present there are none, nor has there been any for some months; consequently, the average daily production for December, 1899, was less than it was in that month in the previous year, and statistics at hand for January, 1900, show that there was no increase in the production over the closing month of 1898, notwithstanding the many wells completed. As the heaviest production of both 1898 and 1899 was in the months of January and February, this year starts much less favorably than those two years.

The figures for the average depth of the wells completed show only 911 feet in 1899, against 937 feet in 1898, and would seem to indicate that the drilling is getting shallower; but that is not the case, the decrease in the depth being due to the fact that more wells were drilled in the shallower, older territory of Balakhani and Sabunchi, which wells are also smaller than wells in the newer and deeper territory.

CONSUMPTION OF CRUDE FOR FUEL AND LOSS IN PIPING FROM WELLS.

The figures showing the loss from piping and consumption of crude for fuel at the wells give a better idea of the actual increase in production than the figures for the gross production, because the amount of crude thus consumed plays no part in the amount of production which enters into competition with the American product, and it can be readily understood that with crude the only fuel, as is the case at Baku, the increased number of wells producing and drilling increases the loss proportionately to the production unless there is a very material increase in the latter. This is plainly indicated by the results of 1899, as the loss that year amounted to almost 11 per cent of the production, against only about 8 per cent in 1898; consequently, notwithstanding the increase in the gross production in 1899 was about 13,000 barrels per day, the increase in the net effective production was only a trifle over 8,000 barrels per day. As the number of producing wells is steadily increasing and there is no likelihood of the number of drilling wells and those under repair falling off without a material increase in the production, the ratio of loss for pumping and fuel to the gross production is likely to still further increase in 1900.

COST OF PRODUCTION.

There is no doubt whatever that the cost of producing oil at Baku increases steadily; the expense of drilling new wells adds much to this cost, but the greatest increase in the cost is due to the increased depth from which the oil must be raised and the steadily

increasing amount of water in the wells. It has been explained in previous reports that the Baku wells are not pumped in the same manner as in the United States; that, owing to the great amount of sand always combined with the oil, the American system of pumping is impossible; that the Baku wells are worked with the bailer; but it has also been explained that the bailer used is made as large as possible. If the well is finished with 16-inch pipe, which is very commonly the case, the bailer will be as great in diameter as is possible to run inside that pipe and generally about 40 feet long, so that it will bring up not much less than a couple of barrels at a run. The line used for running the bailer is generally a wire cable, and has to be renewed in from six to nine months. With this explanation, it will be understood that the deeper the well the fewer the runs of the bailer, and that with water in the wells the less oil the bailer will bring up, as the water must be kept down or it will eventually spoil the well. From excellent authority, I learn that the water is confined to no particular part of the field, but is general, varying in quantity, however, in different wells. Some wells have so much water in them that it has been found unprofitable to work them; others having less water are worked by taking a bailer full of oil from the top, another full of oil and water mixed from the middle, and a third full of water from the bottom of the well, making three runs of the bailer for not much more than one bailer full of oil. There are other wells with still less water, which can be worked by taking two or three bailers of oil to one of water.

While it is said that the water in the wells comes in from the shallower exhausted oil strata, it is undoubtedly salt water, very similar to the water of the Caspian Sea. The technical talent of the trade has been devoted for some years to finding some means of overcoming this very expensive difficulty, but, I understand, wholly without success. I am aware that this statement may surprise American producers, with their many successful methods of packing off the water; but it must not be overlooked that the soil at Baku differs materially from the generality of soil in the oil regions of the United States, being loose and sandy from the top to the bottom of the well, and consequently offering no solid basis for packing; even if an American packer could be inserted, the water would not be long in working around it. Attempts have been made to shut the water off by pouring into the hole outside the pipe as much liquid cement as possible, which, when hardened, answered the purpose for a time; but the water eventually found its way around the cement.

There is still another condition which must eventually add materially to the cost of producing—that is, the steadily increasing royalties which must be paid for territory. Royalties at Baku are always so much per pood (36 pounds) on the oil produced, and not,

as in the United States, a proportion of the oil itself. For years the average royalty paid was not more than half a kopeck per pood (about 2 cents per barrel of 42 gallons); but the higher prices realized for some years for crude have caused a very great advance in the royalty, as the Government has leased much land in the last two years at prices of from 2 to 11 kopecks per pood (8 to 46 cents per barrel), and always with the stipulation that a certain amount of royalty must be paid annually, whether oil is produced or not. Much of the drilling now being done is upon this Government land, and consequently as the new wells come in the royalty increases; in a few years this item will make a great addition to the cost of producing.

NONPRODUCTIVE WELLS.

Some of the wells drilled last year in the Government territory mentioned above have been very unfortunate for the operators. The territory was leased by auction to the highest bidder, and the high and advancing price of crude made the competition for this territory very great, particularly as much of it was located in the middle of the developed district. Such territory, of course, brought the highest royalty; for, notwithstanding there were probably three or four times as many wells to the area of the territory surrounding it as would have been drilled upon a like area in any of the fields in the United States, and the wells had produced from a number of different strata from 350 to 1,500 feet deep, the bidders for the Government land seemed to have no fears that the neighboring wells had drawn any oil from the undrilled territory. But some of the land leased was situated on the edge of developments, and, of course, this sort of territory brought lower royalties. Among other successful bidders were two companies which obtained considerable of this outlying territory at royalties of from 2 to 3 kopecks per pood, one of which immediately started drilling 15 wells and the other 10, and continued drilling some of them to the depth of over 1,000 feet without obtaining oil; and I now understand that all of these 25 wells have been abandoned as worthless. I hardly think, however, that these failures will have any material bearing upon the future of the field, as their position condemns little or no territory which was thought to be very good.

EXTENSION OF TERRITORY.

Some of the land leased early in 1899 by the Government to the highest bidder is located in what is known as the Bibi-Eibat district, and most of it is in advance of land now producing, but some lies between plots which have been exceedingly rich in the past and continue to yield much oil. These plots, of course, brought very high royalties, one having been let at 11 kopecks per pood (5.7 cents

per 36 pounds) and several at prices nearly as high. It must be explained, however, that the lessee of the plot at 11 kopecks royalty is the owner of territory adjoining the plot leased, which has been exceedingly rich and still brings him an enormous income, and the supposition is that he paid the high royalty in order to keep others from getting the territory and drilling near him. I have heard that this man and several others of those who leased at high royalties have notified the governmental authorities that they can not pay the royalty bid, and therefore are prepared to forfeit such money as they had to pay to make their bids good. In this manner these people, by the payment of a comparatively insignificant amount, have succeeded in keeping others from drilling adjoining territory for a couple of years, as the land is not likely to be offered again for a year.

The territory lying outside the lines of development was leased generally by bona fide operators and for the purpose of drilling; consequently, within a very short time after the auction more than 50 wells were started upon these leases, but up to the present only one of those wells has been drilled deep enough for oil, and that one is on land lying farthest away from any proved oil land, and leased at a royalty of about 3 kopecks (1.5 cents) per pood—about the lowest price paid. This well was drilled to a depth of 924 feet without going through any oil strata, it was said, which was thought to be anything but favorable, as the nearest producing land had been very rich at depths much shallower; however, about the first of the year it commenced flowing outside the 22-inch pipe with which it had reached the depth mentioned and made two short flows, amounting to about 3,000 barrels, when it became plugged. Since then the owners have been working energetically to open it again and succeeded about a month ago in getting several more small flows out of it, when it again stopped and remains an uncertainty, although I think it is the general impression that it will eventually make a very large well.

As the nearest developed and proved territory to this well is nearly half a mile away, if it proves to be a large well or even an ordinary well, it opens what is considered an immense area of new territory. It may seem an exaggeration to call half a mile an immense area of territory, but when it is explained that the tract nearest to this well has produced more than 35,000,000 barrels of oil from an area of not more than 20 acres in the last twelve years, and is still producing about 12,000 barrels per day, the significance of a big well half a mile in advance can be better understood.

SEARCHING FOR NEW TERRITORY.

Many wells have been drilled at various distances from Baku on all sides in the last two or three years, but, with one possible exception, wholly without success. The possible exception is at a point

on the shore of the Caspian Sea, about 30 miles northwest of Baku, called Kiliazi. About three months ago it was reported upon fair authority that oil had been struck at a depth of 875 feet at this place, which was producing 120 barrels per day, and I have since heard that it continued producing for some time; but as late as March 1 I heard that it had stopped producing and was being drilled deeper, which makes it appear that it is little better than a failure.

PRICES OF PETROLEUM PRODUCTS AT BAKU.

The fluctuations in the price of crude at wells were confined to between 11 and 13 kopecks per pood (70 to 80 cents per barrel of 42 gallons) the first half of the year, but advanced gradually till it reached 17 kopecks per pood (about $1.05 per barrel) in November, and has remained practically at that figure up to the present. Residuum was about 13 kopecks per pood (80 cents per barrel) at the opening of the year, and remained at about that figure till July, when it commenced to advance and reached 15 kopecks (7.7 cents) in December, at which it may be quoted now. It will be seen that the highest prices for both crude and residuum were not reached until after the close of the season of Volga navigation, when, by reason of the impossibility of shipping by the Volga, the demand is greatly reduced, and residuum at least must be carried for several months till the shipping season opens; this would seem to indicate still higher prices when this season comes.

Refined oil f. o. b. cars for Batum, which was quoted at about 22 kopecks per pood (2.3 cents per gallon) at the opening of the year, declined to about 15½ kopecks (about 1.6 cents per gallon) in March and remained at about that figure till the end of May, when it started to advance and by fractional moves reached about 25 kopecks per pood (2.6 cents per gallon) in August, when the advance was accelerated by the advance in the United States, no doubt. The price reached 56 to 57 kopecks per pood (6 cents per gallon) in December, with sales reported for January shipment at a still higher figure. These high prices were, however, only for such refined as cars could be furnished for, as refined for shipment via the Caspian Sea to Petrovsk and from there by rail to Novorossisk, on the Black Sea, did not go above 32 kopecks per pood (3.3 cents per gallon); consequently, the difference was practically a premium upon transportation capacity and was due to both an increased demand at Batum and decreased rail transportation, owing to lack of facilities of the railway. Notice was given in November that the railway freight on refined for export from Baku to Batum would be increased from 12 to 16 kopecks per pood (6.18 to 8.24 cents per 36 pounds) on January 27, and, notwithstanding the fact that the prices in the markets abroad justify a much higher price, and that it must be well known

that the Batum exporters do not receive sufficient refined to meet the demands, the price has declined since the advance in freight took place, till at present it can not be quoted above 50 kopecks (25.8 cents) per pood f. o. b. cars at Baku, while refined for Caspian shipment remains strong at 32 kopecks (11.3 cents).

REFINING.

Up to the last four months of 1899 refining had for its principal object, as in the preceding year, fuel oil—*i. e.*, residuum—as there seemed to be an almost unlimited market in Russia for that product at a good price, while the market for illuminating oils seemed to be falling off; and the price was hardly up to cost—in fact, was often below cost and never up to a profitable figure. In the last four months of the year, however, when the advance in the price of American oil commenced to be felt and the limit of price for residuum seemed to have been reached, conditions changed materially, and, with a high and steadily advancing price for refined oil, refining took for its principal object that product, which will be clearly seen by the following percentage statistics as to the yield of the various products for the year:

Results of refining—	Illuminating.	Lubricating.	Residuum.
	Per cent.	*Per cent.*	*Per cent.*
First 8 months	24.88	2.54	56.59
In September	28.08	2.23	52.78
In October	29.17	2.98	52.8
In November	31.38	3.35	48.96
In December	31.78	2.29	48.35
In the year 1899	26.43	2.6	54.75

As stated before, the higher prices for refined oil were only for as much as transportation to Batum could be furnished for—*i. e.*, for refined in tank cars for shipment to Batum—and as the cars are distributed among the refiners monthly upon the basis of their refined output for the preceding month, the inducement to increase the refined output can be readily understood; and it is not at all surprising that the result is much heavier stocks of illuminating oil at the close of the year and much smaller stocks of residuum than at the close of the preceding year. As conditions have not changed since the end of the year, and refiners can get 50 kopecks per pood (25.7 cents per 36 pounds) for refined in tank cars, while they can not get more than 32 kopecks (16.4 cents) for their refined without tank cars, there is no reason to expect anything but a further increase in the stocks of refined and decrease in residuum stocks, so that it is possible that the opening of navigation on the Volga will very likely find the trade with much more refined than is required

and less residuum, the inevitable result of which must be a decline in the price of the former and an advance in the price of the latter. Unless, however, the transportation capacity of the railway to Batum is materially increased, there is not likely to be any material decline in the price of refined in tank cars.

RAILWAY TRANSPORTATION.

The export of Russian oil continues to be limited by the transportation facilities from Baku to the Black Sea. There are now two routes of shipment to the Black Sea, the first and most important being the railway from Baku to Batum direct and the second by Caspian Sea to Petrovsk and thence by the Vladikavkas Railway to Novorossisk. The latter route is much longer and necessitates transshipment from vessels to tanks at Petrovsk and then from tanks into tank cars; consequently, there must be greater loss than by direct shipment in cars to Batum. There is also a difference in the cost of transportation in favor of Batum, as the rail freight from Petrovsk to Novorossisk is 21.1 kopecks per pood (10.9 cents per 36 pounds), and the sea freight to Petrovsk from Baku about 1.5 kopecks (0.77 cent) per pood, making the total freight by that route about 22.6 kopecks per pood (11.6 cents per 36 pounds), against 16 kopecks (8.24 cents) per pood from Baku to Batum; but this difference is considerably reduced by certain advantages given shippers by the Novorossisk route in excise allowance, so that the actual difference in favor of Batum is not more than 4.5 kopecks (2.3 cents) per pood.

Such a difference in the cost of transportation would seem to be sufficient to make the more expensive route impossible; but, as explained elsewhere, there is a great difference in the price of refined oil at Baku for shipment by the two routes. Refined oil on board tank cars at Baku for shipment to Batum is to-day worth about 49 kopecks (25.2 cents) per pood; and the supply is limited, owing to the number of cars that can be handled by the railway, while an unlimited amount of refined for sea shipment can be had at 32 kopecks (16.5 cents) per pood. The amount is unlimited because of the fact that the tonnage for bulk oil on the Caspian Sea is now idle because of the Volga being closed, but even in the season of. Volga navigation the tonnage is greatly in excess of the requirements. This was demonstrated last year by the sea freight dropping to such a point that there was a loss in carrying to the vessel owners. The difference in the price of refined oil for the two routes of shipment, after deducting the 4.5 kopecks (2.3 cents) per pood difference in the cost of transportation, amounts to at least 12 kopecks per pood (6.18 cents per 36 pounds) in favor of the Petrovsk-Novorossisk route—quite sufficient to induce everybody in the export trade to endeavor

to take advantage of that route, which, however, is exceedingly limited in capacity, resulting in delays in discharging vessels at Petrovsk and reduced deliveries at Novorossisk. The amount delivered at the latter place has averaged less than 10,000,000 gallons per month for several months. The railway can deliver about 25,000,000 gallons of illuminating oil per month at Batum; consequently, by the two routes it is possible to get about 30,000,000 gallons per month to the Black Sea for export. As much of the Novorossisk deliveries is lubricating oil and refined for home trade, if the Baku production should be increased to double its present figure, the export can not be increased beyond the figures given until the transportation to the Black Sea is increased.

MIKHAILOVA-BATUM PIPE LINE.

The object of the 8-inch-pipe line for refined oil under construction from the station of Mikhailova, on the Baku-Batum Railway, to Batum is to increase the capacity of the railway, the idea being to carry refined in tank cars from Baku to Mikhailova and pump it thence to Batum. This will shorten the tank-car haul the distance from Mikhailova to Batum (143 miles) and return, and, as that section of the railway is the most expensive to operate, because of the very heavy grades over the mountains, the saving in time and expense should be considerable; as to how much it will increase the capacity of the railway, opinions seem to differ.

The money for this pipe line was appropriated five years ago, when it was stated that the line would be ready for operation by the end of 1897. In my last report,* I stated on good authority, that the line could not be a factor in the transportation from Baku to Batum before the beginning of this year, and I can now add to that the assurance that the use of the line can not take place for another three or four months from date. I understand that the line was tested with water within the last few weeks and found satisfactory, but that it has been decided not to commence the use of it until a number of self-closing valves can be placed in it for the purpose of protection against loss by breaks. From the top of the mountain, which is only a few miles from Mikhailova, there is a steady fall to Batum of probably more than 2,000 feet, so that without some preventative, in case of a break in the line near Batum, all the oil between the summit and the break would be lost; hence the idea of self-closing valves at intervals in the line. I have been informed that these valves have only been ordered from abroad within a week, and that it will require at least two months for them to reach here, and another month to place them in the line. This time seems

*See CONSULAR REPORTS No. 225 (June, 1899), p. 209; ADVANCE SHEETS No. 400 (April 14, 1899).

short enough when the statement is added that it is intended to place the valves only 630 feet apart the whole length of the line, which means that about 1,000 valves will be required, all of which, it seems exceedingly probable, will have to be made, as 8-inch-pipe lines are not common, even in the United States, and the use of such appliances as self-closing valves must be very limited.

GROSNI FIELD.

A report upon the Russian oil trade which omitted mention of the Grosni field would be incomplete, although that field has little importance from an American point of view, as up to the present, notwithstanding the first big well in this field was struck in 1893, the amount of products which it has furnished to the world has been too insignificant to be worthy of attention; in fact, notwithstanding the production of this field has averaged probably 6,000 barrels per day for several years, it has hardly made itself felt even in Russia. Last year one of the refineries at Grosni, constructed especially for running crude to Grosni, was kept running with crude from Baku, which must have cost at Grosni not less than 20 kopecks (10.1 cents) per pood, while I do not think the local crude was ever quoted above 12 to 13 kopecks per pood (6.18 to 6.6 cents per 36 pounds).

I have not been able to obtain as accurate statistics of the Grosni production as for that of Baku; but such figures as I have obtained show that, notwithstanding the considerable amount of drilling done in 1899, resulting in 15 more producing wells in December of that year than in December of 1898, there was practically no increase in the production, the figures being 2,200,000 barrels for 1898 and 2,300,000 barrels for 1899. From a very good source, I get the following information as to the number of wells producing, idle, drilling, and undergoing repairs on December 31, 1899, which I give in comparison with the estimate for the same date in 1898:

Description.	December 31—	
	1898.	1899.
Wells producing	26	41
Wells idle	13	12
Wells drilling	24	38
Wells repairing	1	9
Derricks ready	10	14

I append very full statistics of the Baku trade for the years 1898 and 1899.

JAMES C. CHAMBERS,
Consul.

BATUM, *March 7, 1900.*

Number of wells producing, number of flowing wells, and number of wells started drilling.

Month.	Balakhani-Sabunchi.		Romani.		Bibi-Eibat.		Total.	
	1898.	1899.	1898.	1899.	1898.	1899.	1898.	1899.
Wells producing.								
January	619	776	82	96	31	42	732	914
February	639	786	82	96	26	41	747	923
March	659	799	76	97	33	46	768	942
April	644	807	79	106	32	45	755	958
May	642	825	84	112	38	46	764	986
June	670	832	81	114	40	45	791	991
July	683	856	86	113	40	46	809	1,015
August	690	876	83	114	33	48	806	1,038
September	706	905	84	115	38	47	828	1,067
October	736	915	86	118	41	51	865	1,084
November	740	958	90	121	39	56	869	1,135
December	770	951	93	122	42	55	905	1,128
Average for the year	.....	.....	.....	.....	.....	.....	803	1,015
Flowing wells.								
January	2	8	4	3	3	2	9	13
February	1	4	6	1	4	3	11	8
March	3	4	4	5	4	2	11	11
April	4	2	3	5	3	2	10	9
May	1	1	5	4	4	2	10	7
June	4	2	5	3	5	2	14	7
July	5	1	5	2	5	3	15	6
August	6	.....	5	2	4	1	15	3
September	6	.....	6	1	3	2	15	3
October	5	1	5	.....	3	1	13	2
November	3	3	7	2	4	1	14	6
December	9	.....	4	1	1	1	14	2
Average for the year	.....	.....	.....	.....	.....	.....	13	6
Wells started drilling.								
January	23	49	5	3	.....	1	28	53
February	27	55	3	5	.....	1	30	61
March	30	46	2	7	2	1	34	54
April	21	52	3	4	.....	1	24	57
May	25	34	3	7	1	2	29	43
June	34	32	2	6	.....	.....	36	38
July	35	28	1	8	.....	9	36	45
August	30	33	5	5	.....	17	35	55
September	32	43	2	3	.....	5	34	51
October	48	19	3	13	3	14	54	46
November	71	41	2	4	2	6	75	51
December	34	34	7	9	.....	1	41	44
Total	410	466	38	74	8	58	456	598

Wells completed, with depths and average daily production.

Month.	Balakhani-Sabunchi.			Romani.			Bibi-Eibat.			Total.		
	Wells.	Average depth.	Average production.	Wells.	Average depth.	Average production.	Wells.	Average depth.	Average production.	Wells.	Average depth.	Average production.
1898.		*Feet.*	*Barrels.**		*Feet.*	*Barrels.**		*Feet.*	*Barrels.**		*Feet.*	*Barrels.**
January	22	725	270	6	1,453	160	2	1,596	29,094	30	932	2,522
February	14	752	207	1	1,540	3,600	1	1,682	2,682	16	861	460
March	16	918	602	1	1,638	73	1	1,495	2,858	18	988	781
April	24	837	248	2	1,153	281	3	1,484	1,001	29	925	329
May	5	890	623	1	1,292	5,041	.....	.....	.....	6	958	902
June	15	819	319	1	1,652	254	2	1,673	339	18	960	304
July	20	873	568	2	1,425	260	2	1,517	979	24	972	579
August	18	933	203	1	1,624	2,447	.....	.....	.....	19	970	321
September	24	801	255	1	1,295	4,000	1	1,750	240	26	857	420
October	21	917	226	2	1,306	464	1	1,827	100	24	987	248
November	23	902	436	1	1,540	213	1	1,554	6,880	25	954	538
December	20	880	259	2	1,673	163	1	1,694	273	23	985	249
Year	222	845	331	21	1,448	912	15	1,595	5,075	258	937	653
1899.												
January	29	798	343	1	1,267	213	.....	.....	.....	30	813	339
February	26	973	132	2	1,340	433	1	1,254	534	29	1,008	187
March	17	939	252	1	1,596	255	1	1,043	4,879	19	980	496
April	12	980	192	2	1,421	240	1	742	1,059	15	1,030	251
May	25	808	108	5	1,225	230	.....	.....	.....	30	875	138
June	35	889	194	7	1,379	33	1	1,995	392	43	994	173
July	33	784	132	4	1,463	106	1	861	347	38	861	134
August	35	746	142	2	861	516	.....	.....	.....	37	753	167
September	24	889	106	3	1,631	190	1	1,368	4,551	28	987	274
October	36	938	159	2	1,008	406	.....	.....	.....	38	945	172
November	26	812	163	2	1,554	135	1	1,890	146	29	901	160
December	33	896	156	1	777	123	.....	.....	.....	34	889	155
Year	331	862	170	32	1,329	201	7	1,308	1,701	370	911	202

* Barrels of 42 gallons.

Gross production of Baku fields in 1898 and 1899.

Month.	Balakhani-Sabunchi.		Romani.	
	1898.	1899.	1898.	1899.
	*Barrels.**	*Barrels.**	*Barrels.**	*Barrels.**
January	2,540,598	3,703,886	961,402	900,947
February	2,384,289	3,856,516	1,159,875	797,801
March	2,823,938	3,781,942	1,007,636	1,000,362
April	2,877,834	3,073,066	809,438	1,316,391
May	2,754,241	3,734,477	972,244	1,397,345
June	2,807,179	3,169,138	904,293	1,153,990
July	2,801,262	3,171,152	924,527	1,083,966
August	2,818,222	3,254,527	1,027,117	1,029,308
September	2,839,203	3,229,456	1,069,591	855,936
October	3,298,351	3,627,334	1,154,002	765,701
November	3,096,386	3,499,510	949,512	767,921
December	3,566,843	3,387,797	1,126,202	762,026
Total	34,608,346	41,488,801	12,065,839	11,831,694

Month.	Bibi-Eibat.		Total.	
	1898.	1899.	1898.	1899.
	*Barrels.**	*Barrels.**	*Barrels.**	*Barrels.**
January	1,846,143	629,005	5,348,143	5,233,838
February	2,551,218	538,131	6,095,382	5,192,448
March	584,367	830,075	4,415,941	5,612,379
April	844,773	805,846	4,532,045	5,195,303
May	855,293	649,002	4,581,778	5,780,824
June	558,025	683,082	4,269,497	5,006,210
July	992,784	963,416	4,718,573	5,218,534
August	573,929	836,849	4,419,268	5,120,684
September	756,247	955,314	4,665,041	5,040,706
October	826,194	973,676	5,278,547	5,366,711
November	674,232	892,319	4,720,130	5,159,750
December	521,011	944,182	5,214,056	5,094,005
Total	11,584,216	9,700,897	58,258,401	63,021,392

* Barrels of 42 gallons.

Gross production (flowing wells) of Baku fields in 1898 and 1899.

Month.	Balakhani-Sabunchi.		Romani.	
	1898.	1899.	1898.	1899.
	*Barrels.**	*Barrels.**	*Barrels.**	*Barrels.**
January	46,200	785,760	181,320	174,480
February	12,000	1,236,480	585,240	68,280
March	139,200	683,760	309,600	283,680
April	298,440	208,560	180,600	483,120
May	48,000	676,080	257,280	645,000
June	158,400	157,440	207,240	410,520
July	166,560	7,800	226,920	350,400
August	141,600	.....	347,640	241,320
September	164,760	.....	396,720	97,680
October	478,960	291,840	417,960	.....
November	289,200	241,680	261,600	74,280
December	674,520	.....	400,920	4,800
Total	2,617,840	4,289,400	3,773,040	2,833,560

Month.	Bibi-Eibat.		Total.	
	1898.	1899.	1898.	1899.
	*Barrels.**	*Barrels.**	*Barrels.**	*Barrels.**
January	1,612,800	240,840	1,840,320	1,201,080
February	2,313,720	197,040	2,910,960	1,501,800
March	290,880	274,800	739,680	1,242,240
April	525,720	341,280	1,004,760	1,032,960
May	443,520	125,160	748,800	1,446,240
June	114,960	160,560	480,600	728,520
July	537,000	265,200	930,480	623,400
August	220,800	234,360	710,040	475,680
September	331,440	205,080	892,920	302,760
October	350,640	165,720	1,247,560	457,560
November	288,000	132,480	838,800	448,440
December	158,280	187,200	1,233,720	192,000
Total	7,187,760	2,529,720	13,578,640	9,652,680

* Barrels of 42 gallons.

Average daily production of the Baku fields in 1898 and 1899.

Month.	Flowing wells.		Pumping wells.	
	1898.	1899.	1898.	1899.
	*Barrels.**	*Barrels.**	*Barrels.**	*Barrels.**
January	59,365	38,744	113,156	130,075
February	103,963	53,636	113,729	131,808
March	23,861	40,072	118,589	140,973
April	33,492	34,432	117,576	138,745
May	24,129	46,653	123,670	135,984
June	16,020	24,284	126,297	142,590
July	30,015	20,109	122,197	148,230
August	22,933	15,344	119,624	149,839
September	29,764	10,092	125,737	157,931
October	40,212	14,760	130,063	158,351
November	27,960	14,948	129,378	157,043
December	37,797	6,193	128,398	158,129
Year	37,202	26,445	122,413	146,216

Month.	Total.		Stocks at wells at end of month.	
	1898.	1899.	1898.	1899.
	*Barrels.**	*Barrels.**	*Barrels.**	*Barrels.**
January	172,521	168,817	1,491,835	809,740
February	217,692	185,444	2,806,376	1,018,898
March	142,450	181,085	1,929,990	759,351
April	151,068	173,177	1,612,813	769,334
May	147,799	182,607	1,137,625	802,190
June	142,317	166,874	665,803	747,870
July	152,212	168,339	488,786	893,651
August	142,557	165,183	509,309	689,413
September	155,501	168,023	558,774	643,592
October	170,275	173,111	644,544	640,399
November	157,338	171,991	639,528	684,827
December	168,195	164,322	859,584	858,238
Year	159,615	172,661	.....	.....

* Barrels of 42 gallons.

Crude production of Baku in 1898 and 1899.

Month.	Gross production.	Loss and consumed for fuel.	Net production.	Daily average.
1898.	*Barrels.**	*Barrels.**	*Barrels.**	*Barrels.**
January	5,348,143	366,246	4,981,897	160,706
February	6,095,382	315,270	5,780,112	206,433
March	4,415,941	360,440	4,055,501	130,823
April	4,532,045	465,776	4,066,269	135,542
May	4,581,778	351,298	4,230,480	136,467
June	4,269,497	373,598	3,895,899	129,863
July	4,718,573	452,885	4,265,688	137,603
August	4,419,268	393,796	4,025,472	129,854
September	4,665,041	416,179	4,248,862	141,629
October	5,278,547	444,535	4,834,012	155,936
November	4,720,130	457,101	4,263,029	142,101
December	5,214,056	461,600	4,752,456	153,306
Year	58,258,401	4,858,724	53,399,67	146,305
1899.				
January	5,233,838	555,140	4,678,698	150,925
February	5,192,448	533,839	4,658,609	166,379
March	5,612,379	629,971	4,982,408	160,723
April	5,195,303	580,691	4,614,612	153,820
May	5,780,824	508,897	5,271,927	170,062
June	5,006,210	511,773	4,494,437	149,814
July	5,218,534	546,168	4,672,366	150,721
August	5,120,684	568,392	4,552,292	146,848
September	5,040,705	580,082	4,460,623	148,687
October	5,366,711	649,036	4,717,675	152,183
November	5,159,750	617,038	4,542,712	151,424
December	5,094,005	602,942	4,491,063	144,840
Year	63,021,391	6,883,969	56,137,422	153,774

*Barrels of 42 gallons.

Stocks of all products at Baku.

Product.	January 1—		Increase.	Decrease.
	1899.	1900.		
Crude:	*Barrels.**	*Barrels.**	*Barrels.**	*Barrels.**
At wells	859,584	858,238	.....	1,346
At refineries	1,462,344	4,750,359	3,288,015	.....
Total crude	2,321,928	5,608,597	3,286,669	.....
	Gallons.	*Gallons.*	*Gallons.*	*Gallons.*
Illuminating	51,805,615	92,600,025	40,794,410	.....
Lubricating	11,605,275	9,009,485	.....	2,595,790
Residuum	265,121,885	189,541,720	.....	75,580,165

*Barrels of 42 gallons.

Output of all products from Baku in the years 1898 and 1899.

Month.	Illuminating.		Lubricating.		Residuum.		Crude.		Total.	
	1898.	1899.	1898.	1899.	1898.	1899.	1898.	1899.	1898.	1899.
By railway.	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*
January	21,800,000	25,780,000	2,495,000	4,195,000	1,260,000	1,310,000	2,635,000	4,630,000	28,190,000	35,915,000
February	25,080,000	25,855,000	2,230,000	3,040,000	1,400,000	1,510,000	5,420,000	4,280,000	34,130,000	34,685,000
March	26,835,000	29,710,000	4,175,000	3,755,000	2,305,000	3,020,000	4,750,000	5,260,000	38,065,000	41,745,000
April	26,655,000	25,360,000	2,050,000	3,455,000	4,050,000	2,205,000	2,095,000	4,675,000	34,850,000	35,695,000
May	27,965,000	24,215,000	5,450,000	3,445,000	1,050,000	1,620,000	7,890,000	4,390,000	42,355,000	33,670,000
June	24,165,000	26,685,000	4,800,000	3,625,000	1,600,000	2,975,000	8,200,000	4,395,000	38,765,000	37,680,000
July	23,780,000	25,505,000	2,195,000	3,245,000	1,960,000	1,575,000	1,005,000	4,720,000	28,940,000	35,045,000
August	24,550,000	26,755,000	3,180,000	3,385,000	2,035,000	1,605,000	680,000	4,905,000	30,445,000	36,650,000
September	19,595,000	27,800,000	3,085,000	4,035,000	2,200,000	1,840,000	3,695,000	4,205,000	28,575,000	37,880,000
October	25,745,000	26,510,000	3,295,000	3,295,000	4,850,000	805,000	2,830,000	4,655,000	36,720,000	35,265,000
November	29,600,000	18,950,000	2,945,000	2,705,000	2,390,000	1,225,000	4,240,000	3,860,000	39,175,000	26,740,000
December	26,350,000	17,320,000	3,015,000	3,835,000	1,535,000	1,615,000	5,570,000	2,720,000	36,470,000	25,490,000
Total	302,120,000	300,445,000	38,915,000	42,015,000	26,635,000	21,305,000	49,010,000	52,695,000	416,680,000	416,460,000
By sea.										
January	4,025,000	4,465,000	625,000	30,000	4,375,000	6,735,000	2,175,000	205,000	11,200,000	11,435,000
February	3,015,000	3,065,000	335,000	390,000	8,420,000	6,830,000	2,130,000	545,000	13,900,000	10,830,000
March	8,400,000	17,040,000	1,280,000	1,165,000	43,860,000	133,105,000	16,605,000	4,570,000	70,145,000	155,880,000
April	19,595,000	20,680,000	1,505,000	1,700,000	131,000,000	157,810,000	18,550,000	10,730,000	170,650,000	190,920,000
May	16,925,000	22,625,000	830,000	2,535,000	173,370,000	174,085,000	41,675,000	11,905,000	232,800,000	211,150,000
June	20,500,000	24,275,000	705,000	1,340,000	160,850,000	163,885,000	39,900,000	10,030,000	221,955,000	199,530,000
July	27,215,000	26,145,000	2,430,000	2,215,000	219,065,000	167,400,000	6,005,000	9,960,000	254,715,000	205,720,000
August	23,190,000	28,980,000	2,620,000	2,375,000	190,065,000	149,415,000	19,875,000	10,370,000	235,750,000	191,140,000
September	23,630,000	27,240,000	1,680,000	1,610,000	164,155,000	135,445,000	16,190,000	6,440,000	205,655,000	170,735,000
October	15,330,000	20,985,000	960,000	1,235,000	78,615,000	89,490,000	7,050,000	2,070,000	101,955,000	113,780,000
November	4,395,000	10,430,000	195,000	365,000	4,775,000	9,580,000	120,000	1,365,000	9,485,000	21,740,000
December	4,865,000	9,460,000	25,000	40,000	6,620,000	9,220,000	175,000	545,000	11,685,000	19,265,000
Total	171,085,000	215,390,000	13,190,000	15,000,000	1,185,170,000	1,203,000,000	170,450,000	68,735,000	1,539,895,000	1,502,125,000

Output of all products from Baku in the years 1898 and 1899—Continued.

Month.	Illuminating.		Lubricating.		Residuum.		Crude.		Total.	
	1898.	1899.	1898.	1899.	1898.	1899.	1898.	1899.	1898.	1899.
Total.	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*
January	25,825,000	30,245,000	3,120,000	4,225,000	5,635,000	8,045,000	4,810,000	4,835,000	39,390,000	47,350,000
February	28,095,000	28,920,000	2,565,000	3,430,000	9,820,000	8,340,000	7,550,000	4,825,000	48,030,000	45,515,000
March	35,235,000	46,750,000	5,455,000	4,920,000	45,165,000	136,125,000	21,355,000	9,830,000	108,210,000	177,625,000
April	46,250,000	46,040,000	3,555,000	5,155,000	135,050,000	160,015,000	20,645,000	15,405,000	205,500,000	226,615,000
May	44,890,000	46,840,000	6,280,000	5,980,000	174,420,000	175,705,000	49,565,000	16,295,000	275,155,000	244,820,000
June	44,665,000	50,960,000	5,505,000	4,965,000	162,450,000	166,860,000	48,100,000	14,425,000	260,720,000	237,210,000
July	50,995,000	51,650,000	4,625,000	5,460,000	221,025,000	168,975,000	7,010,000	14,680,000	283,655,000	240,765,000
August	47,740,000	55,735,000	5,800,000	5,760,000	192,100,000	151,020,000	20,555,000	15,275,000	266,195,000	227,790,000
September	43,225,000	55,040,000	4,765,000	5,645,000	166,355,000	137,285,000	19,885,000	10,645,000	234,230,000	208,615,000
October	41,075,000	47,495,000	4,255,000	4,530,000	83,465,000	90,295,000	9,880,000	6,725,000	138,675,000	149,045,000
November	33,995,000	29,380,000	3,140,000	3,070,000	7,165,000	10,805,000	4,360,000	5,225,000	48,660,000	48,480,000
December	31,215,000	26,780,000	3,040,000	3,875,000	8,155,000	10,835,000	5,745,000	3,265,000	48,155,000	44,755,000
Total	473,205,000	515,835,000	52,105,000	57,015,000	1,211,805,000	1,224,305,000	219,460,000	121,430,000	1,956,575,000	1,918,585,000

Shipments of petroleum products from Batum in the years 1898 and 1899.

To—	Crude and residuum.		Lubricating.		Illuminating distillate.		Refined.		Total.	
	1899.	1898.	1899.	1898.	1899.	1898.	1899.	1898.	1899.	1898.
	Gallons.	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*
Austria-Hungary	426,320	176,850	3,598,125	2,985,615	8,974,820	11,176,665	3,657,900	4,705,470	16,657,165	19,044,600
Belgium	4,127,920	3,723,720	8,033,870	8,047,315	449,580	159,490	6,562,280	8,106,380	19,173,650	20,036,905
Bulgaria	4,850	27,450	70,050	46,150	.....	.....	1,269,255	2,270,040	1,344,155	2,343,640
Cochin China	.....	.....	.....	.....	.....	.....	5,401,000	758,400	5,401,000	758,400
China	.....	.....	.....	.....	.....	.....	28,709,250	9,076,480	28,709,250	9,076,480
Egypt	56,100	20,450	167,650	114,550	.....	.....	4,439,720	13,153,390	4,663,470	13,288,390
France	1,814,095	2,373,630	8,514,075	9,338,175	15,074,440	14,864,665	1,242,575	1,639,775	26,645,185	28,216,245
Germany	991,440	2,020,955	10,579,140	10,601,800	97,495	78,305	12,551,790	7,910,465	24,219,865	20,611,525
India	.....	89,050	.....	100,000	.....	.....	48,063,085	39,488,950	48,063,085	39,678,000
Italy	1,948,040	1,056,340	350,900	316,750	.....	.....	5,819,600	7,567,680	8,118,540	8,940,770
Japan	.....	.....	.....	.....	.....	.....	4,826,090	2,718,800	4,826,090	2,718,800
Java	.....	.....	.....	.....	.....	.....	8,672,320	5,198,840	8,672,320	5,198,840
Malta	.....	.....	.....	.....	.....	.....	1,369,775	1,475,835	1,369,775	1,475,835
Netherlands	.....	.....	103,500	5,000	.....	.....	2,124,905	2,071,805	2,228,405	2,076,805
Philippines	.....	.....	.....	.....	.....	.....	1,989,210	1,668,280	1,989,210	1,668,280
Roumania	1,300	1,000	87,550	142,550	.....	.....	479,175	423,200	568,025	566,750
Spain	238,260	491,850	689,630	246,845	.....	.....	.....	.....	927,890	738,695
Suez Canal	.....	20,500	.....	10,000	.....	.....	46,233,340	55,730,190	46,233,340	55,760,690
Turkey	56,750	72,850	37,300	79,400	.....	.....	19,786,240	28,730,005	19,880,290	28,882,255
United Kingdom	1,412,670	2,634,475	5,037,320	5,830,140	9,674,655	4,321,665	55,932,875	41,572,465	72,057,520	54,358,745
Other countries	1,100	1,000	26,100	15,250	.....	.....	5,479,590	1,902,300	5,506,790	1,919,550
Total exports	11,078,845	12,710,120	37,295,210	37,879,540	34,270,990	30,600,790	264,609,975	236,168,750	347,255,020	317,359,200
Russia	687,075	754,745	1,441,165	1,965,200	51,800	72,450	20,907,815	27,596,940	23,087,855	30,389,335
Total shipments	11,765,920	13,464,865	38,736,375	39,844,740	34,322,790	30,673,240	285,517,790	263,765,690	370,342,875	347,748,535

NOTE.—Illuminating distillate to United Kingdom was gas oil.

Shipments of petroleum products from Novorossisk in 1899.

To—	Residuum.	Distillate.	Refined.	Total.
	Gallons.	*Gallons.*	*Gallons.*	*Gallons.*
Belgium	.....	.....	2,208,945	2,208,945
France	263,560	3,017,700	.....	3,281,260
Germany	916,845	.....	3,788,445	4,705,290
Italy	.....	.....	3,081,915	3,081,915
Malta	.....	.....	594,080	594,080
Netherlands	.....	.....	928,780	928,780
Port Said	.....	.....	13,849,965	13,849,965
Trieste	.....	.....	1,288,390	1,288,390
United Kingdom	2,984,695	1,861,010	7,765,450	12,611,155
Total export	4,165,100	4,878,710	33,505,970	42,549,780
Russia	4,036,000	.....	4,779,605	8,815,605
Total shipments	8,201,100	4,878,710	38,285,575	51,365,385

NOTE.—The "distillate" to France was illuminating distillate, while that to United Kingdom was gas oil. There were no shipments of any importance from Novorossisk in 1898.

FRENCH SYSTEM OF TAXATION.

A report from this consulate published in the ADVANCE SHEETS OF CONSULAR REPORTS No. 485 (July 25, 1899)—also in CONSULAR REPORTS No. 228 (September, 1899)—showing the aggregate sum derived from the taxation of personal property in France, has called forth a number of inquiries for information on the system of taxation by which personal is made to yield as large a sum as real property. The following is the result of my investigation of the subject:

The system of taxation in France had its origin in the French Revolution. Prior to that, no uniform system existed. As Departments and provinces were added to the nation, they were permitted to retain their old fiscal systems, and the Central Government took what it could wrench from them, regardless of minor details. The ruling spirits of the revolution declared that no tax should be levied except in pursuance of a law passed every year, that all taxes should be proportional, and that they should be assessed upon all property and all citizens in proportion to their ability to pay them.

It was intended that the capacity of property to yield a revenue, and not its intrinsic or selling value, should be the basis of the annual taxation.

DIRECT TAXES.

The taxes are divided into two great classes—direct and indirect.

The first are levied upon listed citizens, upon property susceptible of seizure and sale under execution. The second are based upon other than tangible property.

There are five classes of direct taxes:

(1) A land tax upon property not built upon.

(2) A tax upon buildings, not including the land they stand on or the lot surrounding them.

(3) The personal house-furniture tax. This tax is based upon the rent and the capacity to pay, and not upon the value of the chattels contained in the house.

(4) The tax on windows and doors.

(5) Patents or licenses to do business.

These five classes are divided into what are called repartition and quotité taxes.

Repartition taxes are those whose sum total, fixed beforehand by the annual appropriation bill, is apportioned among the Departments by act of Parliament. The general council apportions them among the arrondissements, whose councils, in turn, apportion them among the communes. Here, there are boards of repartiteurs or commissions, which distribute them among the taxpayers. There now remain but three forms of repartition taxes—the tax upon property not built upon, the personal furniture tax, and the tax on doors and windows.

The quotité taxes are those which are derived from levying certain fixed sums upon varying values, the aggregate revenues from which are subject to variation, and consequently can only be approximated in the annual appropriations. These taxes include the amount levied upon buildings which depend upon rents, the amount levied upon patents or business licenses, and all taxes that are assimilated to direct taxes.

The various direct taxes, in which are comprehended the additional centimes added by authority of the annual appropriation law, aggregate yearly from 850,000,000 to 900,000,000 francs ($164,000,000 to $173,700,000). They are general, departmental, and communal.

The law tax is based upon the net revenue of the land. The net revenue is defined to be what remains after deducting the expenses of labor, seeding, deterioration, marketing, selling, etc. The sum taxed is the estimated average profit derived from the land, calculated from the product of a number of years. The calculation of the revenue from farm lands is generally based upon the yield for fifteen years. The two best and the two poorest years are deducted. The average of the eleven remaining years is made the basis of taxation. Lands yielding fine wines are made to pay a higher tax than those from which the commoner wines are produced, or than those growing corn or wheat. The tax levied upon uncultivated lands is calculated from the profits realized from adjoining property, except

in the fine-wine countries, where great prices are realized for products whose excellence depends upon unknown causes.

Marshy, stony, or sandy lands, lands often inundated or for any reason unproductive, are taxed according to whatever they are capable of yielding. The minimum tax for such property is about 9 mills per acre. The tax on forests is based upon their supposed earning capacity, after deducting the cost of maintaining them. Branches are cut from trees in France when they have attained a length of 10 or 15 feet, and, after being dried, are sold to bakers. They create the quick, intense heat which produces the very thick crust of French bread. A forest is taxed according to its net yield from the sale of branches or firewood. If it is not worked, it is taxed the same sum per acre that is levied upon some other forests of similar character. Pine forests—the wood of which is more valuable for packing boxes—and mulberry or olive orchards are taxed according to their product. If any such property is not utilized, it is considered the owner's fault and is no ground for exemption from taxation.

Exemptions from taxation include all property devoted to public uses and not producing a revenue. When trees have been planted on mountain sides and are not yet in shape to produce firewood, the property is temporarily exempted from taxation; also, swamps and dunes while being put in a condition for cultivation, vineyards injured by phylloxera and vineyards during the first four years after planting. Drained swamp lands are partially exempted for twenty-five years, to encourage draining.

But one national survey has ever been made in France, commenced under Napoleon in 1807 and finished in 1847. Another is now being considered.

The tax on buildings is adjusted to their renting value, with a reduction of one-fourth for residence and business places and one-third for factories and mills for wear and tear. The appropriation bill annually fixes the rate of taxation to be applied to renting values. Since 1890, the rate has been 3.2 per cent.

In order to favor the erection of buildings, reconstructions, and additions, it is provided that such property shall not be subject to taxation until the third year after all work on it is finished. This provision is an effective incentive to building. Many contractors make a business of constructing houses for the sole purpose of selling them after the renting of them for three years has shown their money-earning value. The valuation for taxation is based upon the rent as stated in the lease; if the property is not leased, the value is estimated by comparison with similar property that is leased. In Lyons, a lease is never entered into for less than three years. The valuation of houses for taxation is revised every ten years.

The personal furniture tax includes two elements, each having a different basis—the personal, or poll, tax and the rent. The poll tax consists of the value of three days' work. This sum is determined by the general council of a Department at the request of the prefect. The council is bound by law never to fix the value of a day's work at less than 10 or more than 30 sous per day.

Personal furniture tax is a misnomer, as the quality or quantity of furniture never enters into the tax. A taxpayer may have $1,000 or $50,000 worth of furniture in his house, but the tax will be the same. In Lyons, the personal furniture tax is 10 per cent of what is paid for rent, regardless of the furniture. If a man lives in his own house, his tax is based upon the supposed rental value of the premises. In Paris, families paying but 400 francs rent are exempt from the personal furniture tax. A law of 1890 exempted families having seven living children, but it was repealed after a trial of a few years, because it exempted too many wealthy families. Exemption is granted to all large families of limited means and worthy of sympathy.

This personal furniture tax is only applied to that part of a building used as a home. It must be paid even if the use of that apartment is given gratuitously, as in the case of an army officer, a priest, or other functionary occupying an apartment in a building owned by the State, by a Department, or commune. The parts of a building not used as a residence, but for business or industrial purposes, are not taxed in the same manner and do not pay what is called the personal tax.

The personal furniture tax is due from every inhabitant, native or foreign, of both sexes enjoying civil rights and not considered indigent. Diplomatic officers and consuls are in many cases exempted by treaty. Officers away from home with their commands are exempted, unless they occupy quarters paying a higher rent than those provided for them by the State. Widows, married women holding property in their name, and minors possessing means of their own or engaged in business are deemed to be enjoying civil rights and are taxed.

By a law of 1897, rural proprietors whose taxes would amount to from 10 to 25 francs ($1.93 to $4.83) were relieved of all taxation. The total exemptions under this law for 1898 aggregated 25,804,750 francs ($4,980,317).

A tax is levied upon all doors and windows opening upon streets, courts, and gardens in houses, mills, or factories throughout the nation. The revenue from this source for the year 1899 aggregated 96,862,147 francs ($18,694,394), of which 61,199,847 francs ($11,811,570) went into the treasury of the State, 13,868,000 francs ($2,676,524)

to the Departments, and 21,794,300 francs ($4,206,300) to the communes. This tax is proportioned to the population of the village, city, or commune. That is supposed to be a fair criterion of the proportional value of light and the means of entrance to and exit from a building. In the interest of agriculture, the doors and windows of stables, granaries, and other buildings not used for residence are exempt. To favor the development of industry and to leave free the light and air needed by labor, an exemption applies to factories where human labor is the principal element of production. The exemption applies also to public buildings. This tax falls lightly upon the individual, but it reaches everyone. In a season of peril when large sums are needed by the Government it can be increased twenty-fold and made to swell the budget very materially, while distributing the burden equally and not falling very heavily upon the taxpayer. The following table on this subject may be interesting, as it sets forth the door and window tax for cities according to population throughout the country:

Population of cities and communes.	For buildings with—					For buildings with 6 openings and more.		
	1 opening.	2 openings.	3 openings.	4 openings.	5 openings.	Double doors for wagons.	Single doors and windows on ground floor, entresol, first and second floors.	Windows on third floor and superior stories.
Under 5,000 souls..	$0.06	$0.09	$0.18	$0.32	$0.50	$0.32	$0.12	$0.12
5,000 to 10,000.....	.08	.12	.27	.44	.65	.70	.15	.15
10,000 to 25,000.....	.10	.16	.36	.56	.80	1.48	.18	.15
25,000 to 50,000.....	.12	.20	.54	.80	1.10	2.24	.24	.15
50,000 to 100,000.....	.16	.24	.72	1.04	1.40	3.00	.30	.15
Above 100,000.....	.20	.30	.90	1.28	1.70	3.76	.36	.15

In Lyons, where the population is 500,000, the tax on a large double doorway to a building is 30 francs ($5.79), and on windows, 3 francs 6 sous (64 cents). In Paris and Bordeaux, this tax is proportioned to the amount of rent paid and the number of openings in a building. In Paris, it consists of a fixed sum of 20 francs ($3.86) for each double door, 5 francs (96.5 cents) for a single door, and 14 sous (14 cents) per window. To this is added a proportional tax, based upon the rent paid for the residence, store, or office.

TAXES ASSIMILATED TO THE DIRECT TAX.

By the taxes assimilated to the direct contributions are understood special taxes which are assessed upon persons named in the tax list and levied for the benefit of the State, the communes, and

public institutions. They are different from direct taxes inasmuch as "additional centimes" are not added to them. They may be divided into two classes—those levied for the State and those levied for the commune or for public institutions.

Certain taxes are payable only to the State, to wit, those levied upon property held in mortmain or by incorporated societies when such property is a source of revenue. If a city, village, commune, Department, church, or a society of any character establishes a college, school, religious or secular hospital, home for aged people, or other like institution, it must pay a tax to the State, provided that it receives pay for its services. When these institutions receive donations or inheritances, they pay a tax on all such accessions to their wealth. The revenues from this source are on the increase, the total for the first half of 1899 being 548,000 francs ($105,764), an augmentation of nearly 100,000 francs ($19,300) over the first half of 1898. The Catholic Church and the hospitals of France own large tracts of land, which generally pay a tax to the State. They also pay the inheritance tax and a tax on all gifts.

The church and its functionaries pay the ordinary personal tax, the tax on mortmain, a tax of 4 per cent on the revenue from its property, and a tax on inheritances and gifts—the latter established by laws enacted in 1880 and 1884.

Revenues derived from the inspection of foods, liquors, steam boilers, weights and measures, drugs, and the tax on horses, mules, etc., on carriages, on the income from mines, are payable to the State. The tax on horses and carriages is graded according to the population of towns, and is not applied to those used in labor or to animals used for breeding purposes, and is reduced by one-half as applied to animals used in a business that pays a license.

A MILITARY TAX.

All young men enrolled as fit for service who enjoy a partial or total exemption through postponement for one year, a change in the classification of grades, or other cause, are taxable.

The military tax is payable during three years, unless the subject is some time under the flag during that period.

This tax consists, first, of a fixed sum of 5.20 francs ($1), to which is added a sum proportioned to the personal tax paid by his parents or the one of them living.

All persons exempted from service by the council of revision, on account of a bodily infirmity, men dismissed after having been accepted, the persons who are the only support of a family, or who are both themselves and their parents notoriously indigent, are exempted.

TAX FOR THE BENEFIT OF THE COMMUNES OR PUBLIC INSTITUTIONS.

A road tax of 4½ francs (88 cents) per day for four days a year was established in 1836.

Dog tax, 1855.—A watchdog, kept on ground floor always tied up or held by a cord when out, is taxed 2 francs (38.6 cents) per year; other dogs of valued breeds, 10 or 15 francs ($1.93 or $2.90).

CLAIMS OF TAXPAYERS.

Such are the five direct taxes and the assimilated taxes which are yearly levied in France according to the appropriation bill, and which are divided among the names on the tax list. The claims of taxpayers who consider that they have been unjustly assessed are heard before boards of administrators. If a claim is made for the recovery of taxes already paid, it is heard before courts of law. Claims based upon losses from fire, storms, drought, or the poverty of the persons listed are decided by the prefect.

LICENSES.

Every person in France, native or foreigner, established in business is subject to the payment of a patent, which I will call a license. It consists of a fixed sum and a proportional sum; but some pursuits, such as small business concerns, are subject to the fixed license, and others, such as the liberal professions, are subject only to the proportional license.

Unenumerated pursuits do not escape taxation, unless formally exempted; they are classified by comparison with other business, in accordance with a decision of the prefect, made at the suggestion of the director of direct taxation, and the mayor. New tables containing a classified statement of the pursuits and the persons following them are made every five years and submitted to the Legislature for its guidance.

Pursuits upon which the amount of a tax is not fixed in the law pay a sum determined by the prefect. A new list of names for licenses is made out every three years.

The fixed license fee is established according to the relative importance of the different branches of business, which are divided into three classes—A, B, C.

Class A includes those whose license fee is fixed according to the population of the city where they do business. The professionals, business men, and industrials are divided into eight classes, and the fixed license fee assessed upon them is applied according to the population of the commune in which they do business. This fee is regulated by a general law—that is to say, it is the same for all commercial, industrial, and professional pursuits of the same class in

the same category of cities. It consists also of an invariable sum for each class and each category of population, as will be seen from the following table:

Classes and some of the professions comprised in each class.	Fixed Paris tax.	Fixed communal tax.			
		Above 100,000 inhabitants.	From 50,001 to 100,000 inhabitants.	From 30,001 to 50,000 inhabitants.	From 20,001 to 30,000 inhabitants.
1 (wholesale dealers in wine, liquors, silks, butter, groceries; haberdashers)..	$77.20	$57.90	$46.32	$34.74	$23.16
2 (half-wholesale dealers in liquors, silk, butter, meats, groceries; haberdashers).....	38.60	28.95	23.16	17.37	11.58
3 (retail dealers in silks, drugs, entreposts of beer).....	27.02	19.30	15.44	11.58	7.72
4 (retail dealers in wine, liquors, meats; haberdashers).....	14.48	14.48	11.58	8.69	5.79
5 (half-wholesale butchers, retail grocers; a saloon with a billiard table; an innkeeper).....	9.63	9.63	7.72	5.79	3.86
6 (retail butter dealer, retail butcher; saloon; lodging-house keepers, masons, carpenters).....	7.72	7.72	6.18	4.63	3.09
7 (wine shops; a small retail grocer—epicier regrattier—a green grocer)...	3.86	3.86	3.09	2.13	1.54
8 (a person who lets 1 room; mattress maker; a vender of clay pipes).....	2.13	2.13	1.93	1.54	1.16

Classes and some of the professions comprised in each class.	Fixed communal tax.			
	From 10,001 to 20,000 inhabitants.	From 5,001 to 10,000 inhabitants.	From 2,001 to 5,000 inhabitants.	2,000 inhabitants and less.
1 (wholesale dealers in wine, liquors, silks, butter, groceries; haberdashers).....	$15.44	$11.58	$8.69	$6.76
2 (half-wholesale dealers in liquors, silk, butter, meats, groceries; haberdashers).....	8.69	7.72	5.79	4.83
3 (retail dealers in silks, drugs, entreposts of beer)..	5.79	4.83	4.25	3.47
4 (retail dealers in wine, liquors, meats; haberdashers)	4.83	3.86	2.90	2.13
5 (half-wholesale butchers, retail grocers; a saloon with a billiard table; an innkeeper).....	2.90	2.13	1.74	1.35
6 (retail butter dealer, retail butcher; saloon; lodging-house keepers, masons, carpenters).....	1.93	1.54	1.16	.77
7 (wine shops; a small retail grocer—epicier regrattier—a green grocer).....	*1.54	*.965	*.77	*.58
8 (a person who lets 1 room; mattress maker, a vender of clay pipes).....	*.965	*.77	*.58	*.39

*Exempt from proportional taxes in villages of and under 2,000 inhabitants.

In round numbers, 190,000,000 francs ($36,670,000) are annually derived from the license tax, distributed among the communes, Departments, and State.

The licenses of the seventh and eighth classes—peddling from a

wagon, a stand in the street, or a very small shop—are exempt from the proportional taxes.

The additional centimes must be added to the business licenses; also to the fixed tax established by Tables B and C, and to the sums produced by the application of the proportional tax. A centime is the fifth of a cent. The additional centimes are special taxes added for bridges, new roads, repairs, paving, to indemnify for losses by drought, pestilence, fire, phylloxera, sewers, or other improvements, etc. They sometimes amount to as much as either of the other taxes. The first class embraces all wholesale dealers, next the half-wholesale dealers, and last the retailers—that is to say, the tradesmen whose prosperity depends upon the affluence of buyers and whose importance may therefore be measured by the population of the communes and the number of foreign visitors where they are located.

First. The wholesale dealer is defined by law to be one who sells chiefly to other dealers; the half-wholesale dealer, he who sells to retailers and consumers; the retailer, he who only sells at retail and to consumers.

Table A comprehends about 88 per cent of the licensed dealers.

Table B concerns classes whose fixed taxes are apportioned according to population, but are graded, not by classes, as in Table A, but for each particular pursuit, according to population. This table includes a small number of pursuits whose importance and the character of whose business have caused them to be placed in a distinct class. Such are the following: The fixed tax on brokers—a sum varying with the population from 75 to 2,000 francs ($14.48 to $386); (2) a tax on each person employed above five, varying according to the population of the city, from 5 to 50 francs (96.5 cents to $9.65). This last tax is doubled when the number of employees exceeds two hundred and is tripled when it exceeds one thousand. (Proportional tax, 10 per cent.)

There is a fixed tax on bankers, divided as follows:

(1) A tax according to population, varying from 200 to 2,000 francs ($38.60 to $386), upon the banking institution; (2) a head tax upon every person employed above five, varying according to the population from 10 to 50 francs ($1.93 to $9.65). The head tax is doubled when the number of employees exceeds two hundred, and tripled when it exceeds one thousand. If a banker deals in foreign securities and disburses the dividends on them, the total of the fixed tax assessed upon him is increased by one-half. His proportional tax is 10 per cent.

Transportation agents engaged in shipping goods for the general public pay a fixed tax varying, according to population, from 30 to

300 francs ($5.79 to $57.90); (2) a head tax on all employees in excess of five, also varying according to population, from 5 to 15 francs (96.5 cents to $2.90). The latter tax is doubled when the number of employees exceeds two hundred and tripled when the number is in excess of one thousand. Proportional tax is 10 per cent on the residence and the office; 40 per cent on the rent of the entire place of business outside of the offices in which the business is transacted.

The fixed tax on commission merchants is 75 to 400 francs ($14.48 to $77.20) per year on their business, and from 5 to 20 francs (96.5 cents to $3.86) per employee. The proportional tax is 10 per cent for their entire place of business.

Table C relates to occupations and trades, regardless of population, a special tax rate being applied to each one of them. The fixed tax here is applied to the means of production, to the workman, the loom, tool, or machine, which indicates the importance of the pursuit followed. This schedule includes all kinds of great industries—that is to say, a large number of licensed businesses, among which I will cite a few that come to my attention here in Lyons.

The fixed tax in weaving cotton is 50 cents per loom operated by steam, and 30 cents if run by hand. In making woolen or silk goods, the tax is 60 cents per steam loom and 40 cents per handloom.

The proportional tax is 20 per cent on the rent of the home where the loom is run by hand and 60 per cent on the rent of a factory.

The factory tax is three times as high, because the steam looms do three times as much work or more; and so many being placed on one floor, they occupy comparatively less space than the handloom in the home of the workingman.

All those classed in Schedule A, engaged in the production of some article of commerce, pay a fixed tax of $3.50 for the first ten workingmen and 70 cents for all in excess of ten. The proportional tax is 20 per cent on the rent of the home of the owner and 50 per cent on the factory.

Contractors of public work, buildings, paving, bridges, etc., pay: (1) A fixed tax of 5 francs (96.5 cents); (2) a tax of 5 sous per 100 francs (5 cents per $19.30) of their yearly contracts. The proportional tax assessed is 20 per cent and falls only upon the rent of their homes.

Millers pay 5 francs (96.5 cents) per pair of millstones, 5 francs per pair of cylinders over 70 centimeters (27.6 inches) long, 3 francs (57.9 cents) per pair of cylinders less than 50 centimeters (19.8 inches) long, 5 francs (96.5 cents) per press; proportional tax, 20 per cent on home, 50 per cent on mill.

Railroads pay 10 francs per kilometer ($1.93 per 0.6214 mile) for

roads of a double track, 5 francs (96.5 cents) for single track; proportional tax—20 per cent on home; 50 per cent on depot, shops, etc.

Dyers pay a fixed tax of 5 francs (96.5 cents) and 4 francs (77 cents) for every workman; proportional tax, 20 per cent on home and 50 per cent on place of business.

If a patentee carries on several kinds of business in one place, he is subjected, in principle, to only one tax, that business being selected which is assessable at the highest figure. On the contrary, if a man has several different places of business, each one is liable to a fixed tax.

In business firms composed of several persons, the principal partner only pays the proportional tax on his home. The partners are assessable only for a part of the proportional tax on the place of business, according to their holdings. The whole concern is taxed according to the number of employees or the number of presses, lathes, looms, etc., as the business may be.

For large mercantile establishments like the Bon Marché or Magasin du Louvre, in Paris, those classed in Schedule B are assessed a fixed tax of from 100 to 200 francs ($19.30 to $38.60) if they employ from eleven to one hundred employees; from 150 to 300 francs ($28.95 to $57.90) for those employing from one hundred and one to two hundred persons. When the number of employees exceeds two hundred, a fixed tax is levied upon each distinct branch of business carried on in the establishment, varying from 100 to 400 francs ($19.30 to $77.20); also, a minimum tax on employees of not less than 10 francs ($1.93) per hundred persons.

In order to make the taxes fall fairly upon the infinite variety of professional, commercial, and industrial pursuits, and to equitably adjust the license fees, a proportional tax is assessed upon the rent each licensee pays for his home, that being deemed a just indication of the benefits he derives from his business. When an income tax was recently advocated in the French Parliament, it was contemplated to base the amount upon a certain per cent of the rent paid by the citizen upon whom the tax fell. The proportional tax is adjusted to the renting value of the home, the store, shop, mill, factory, studio, warehouse, stable, yard, or other place used for business purposes. It is payable even if the occupant pays no rent. The rate of this proportional tax varies from one-fifth to one-eightieth of the rent. The licensees in Schedule A pay as tax from 20 to 30 per cent of the amount of their rent; in Schedule B, it is 10 per cent; in Schedule C, 20 per cent on the habitation and 50 per cent and 60 per cent on the factory or mill. Finally, those included in Schedule D pay 12 per cent and 15 per cent. This tax is assessable in every one of the 36,000 communes of France; but the proportional tax

levied upon the habitation is due only in the commune where the licensee lives, unless he has a home in another commune and transacts business there.

Lawyers, notaries, doctors, veterinaries, etc., pay only a proportional tax from 12 to 15 per cent of their rent.

The law of 1880 exempted from taxation all public officials, artists (painters, sculptors, engravers, designers, who are considered as artists), professors, savings banks, mutual-insurance companies; workingmen employed at home or by private individuals not having apprentices, or employees working for themselves or for an employer. Commercial travelers from other nations are not taxed unless their governments tax the same class of men from France.

The license fee is due for the entire year from January from all who are carrying on a business at that time.

In the event of the business changing hands, the sum due is assessed upon the new proprietor. If the establishment is closed or business suspended temporarily to make an inventory, on account of the termination of a lease and a change of locality, death, failure, judicial liquidation, or other cause, the license fee ceases to run until business is resumed. If an additional clerk is employed in a store, an additional loom placed in a mill, another lathe or printing press added to a concern, a new pro rata tax upon the same begins to run at once.

The license fee and quotité tax are adjusted by an officer of the tax department, assisted by the communal mayor. The officer revises the list of those having licenses, learns the amount they pay for rent, or if they own houses determines the renting value of the same, and draws up the tax duplicate for the year with the assistance of the mayor. This duplicate is kept on file at the city hall, always open to the inspection of taxpayers, who lodge complaints, if they have any, with the prefect.

Almost everything of any value or of money-producing power is taxed in France. If a saloon keeper or restaurateur places tables, chairs, plants, flowers, or statuary in front of his establishment or an awning over his front doors or windows; if a merchant, a second-hand-furniture dealer, grocer, green grocer, or flower vender displays goods in front of his establishment—he pays the city a tax or a rent for the use of the sidewalk or the space in the air occupied by the awning. Everything that comes into the city in the shape of wine, fruit, poultry, fish, any kind of food or drink, is taxed at the city gates. All banks, stocks, and credits are taxed. Money unproductive is not taxed, and no especial effort is made to get at it. The principle pervading the tax system is to make everything pay that is productive and to aid in rendering all property productive wherever it is possible.

The annual taxes levied in France are constantly increasing. The public debt, including the pensions that the Government owes to its retired officials and employees, is now nearly $7,000,000,000, and this is annually increasing.

JOHN C. COVERT,
Consul.

LYONS, *February 21, 1900.*

Under date of March 8, 1900, Mr. Covert adds that the revenue derived from the taxation of inheritances for the year 1899 amounted to 200,000,000 francs ($38,600,000). The revenue from the same source during the month of January, 1900, amounted to 17,000,000 francs ($3,281,000).

GERMANY'S FUTURE FOOD SUPPLY.

The debate now in progress in the German Reichstag over the proposed meat-inspection act, as proposed by a special commission of that body—which, if enacted, would practically stop all importation of live cattle and meats into Germany after the year 1903—has brought into revived prominence the question which has for years weighed on the hearts of German economists, What will the industrial and commercial classes of this country do for food in the event that, by reason of war or some artificial prohibition inspired by the Agrarian party, the imported supplies of breadstuffs and meats should be practically cut off?

Conservative statesmen of agrarian tendencies are fond of pointing backward to the good old times when the German States raised substantially their whole supply of bread and meat, and they assert that if the vast sums now expended each year for imported food materials were spent for fertilizers and in improving and increasing the flocks and herds of the Fatherland, the old-time independence could be reestablished. Without presuming to discuss the soundness of this general proposition, it may be of interest to examine briefly some of the conditions which have led to the present annual deficit in home-grown food products, and what the proposed independence of imported supplies would involve. The question of food supply has, of course, a direct and unavoidable relation to that of population. Can the products of the farm, the dairy, and garden be augmented until they overtake and thenceforward keep pace with the steady increase of population, which under modern scientific sanitation and improved conditions of living is growing at a pace which neither war nor emigration nor other adverse influence can more than feebly counteract?

During the past century, the population of the territory which now constitutes the German Empire has increased from about 20,000,000 to 56,000,000 souls—that is, has nearly trebled. A similar rate of increase would give Germany at the close of the twentieth century a population of nearly or quite 100,000,000. How is this vast multitude to be fed, not only a hundred years hence, but during the next twenty or thirty years? On this point, the teachings of past experience, although inconclusive, are not without a suggestive interest.

At the recent centennial anniversary of the Agricultural High School of Berlin, Prof. Max Delbruck stated in a formal address that during the past hundred years the agricultural products of the present territory of Germany had nearly quadrupled. Scientific culture and fertilizing, skillful drainage and rotation of crops, improvement of seed and freedom from the destruction and waste of local wars, have operated so favorably that the increased production per acre during even the past ten years has been 19 per cent for rye, 10 per cent for wheat, 3 per cent for barley, and 25 per cent for potatoes. How much higher the productiveness of German soil can be pushed by such intensive methods as are within the reach of the average farmer, which will not raise the cost of his crop beyond all reasonable relation to both its value in the world's market and to the ability of the German people to buy it for food, is the vital but unknown element in the calculation.

But, while good husbandry has done much and may yet do more to increase the products of German agriculture, there has been, as Professor Delbruck sorrowfully admits, a vast and increasing diversion of these products to other than life-sustaining purposes in the form of food. Nearly the whole of the barley crop is malted and used for the manufacture of beer, potatoes and maize in vast quantities are devoted to the production of alcohol, and the best lands of Germany are now devoted to the culture of beet sugar, the greater portion of which is exported. It is true that the rough refuse of the breweries, the distilleries, and sugar mills can be utilized to some extent as food for animals; but there is no disputing the fact that these three forms of manufacture neutralize to an important degree the food-producing power of German agriculture.

And so, notwithstanding all improvements in farming processes, notwithstanding duties and all other obstacles thrown in the way of food imports by agrarian influence, Germany imported during the past year 1,370,850 metric tons of wheat, 561,251 tons of rye, 259,147 tons of oats, 26,216 tons of buckwheat, 23,787 tons of beans, 58,872 tons of pease, 1,104,349 tons of barley, 1,626,595 tons of maize, 214,139 tons of potatoes, 143,730 tons of fresh fruits, 11,761 tons

of butter, 47,961 tons of pork meats, 21,752 tons of beef and veal, besides fish, dried fruits, and other luxuries in large quantities.

No discussion of this subject would be complete which did not take into account the vastly improved condition of the German peasantry and industrial classes during the past fifty years, and their greatly increased requirements in respect to varied and costly forms of food. The peasant of a century ago—the period of the Napoleonic wars—ate little except black bread and potatoes, and in many cases he had barely sufficient of them to sustain life. Meat was a luxury beyond the reach of the majority of the people. What were then luxuries have become, through universal education and progressive enlightenment, necessities of daily life. So that, although the century has seen the products of German soil nearly quadrupled while the population has been trebled, there is to be deducted the vastly increased loss of material through brewing, distilling, and sugar exports, and, in addition to this, there is the fact that the 56,000,000 people of Germany to-day demand and consume food products probably six or seven times more in market value than the plain fare of their 20,000,000 progenitors of a hundred years ago.

Finally, it is conceded that any really important and permanent increase in the home-grown food supply of this country will require the employment in farming of both capital and labor which are now more profitably engaged in the industries and trade which have transformed Germany during the past thirty years from an agricultural into an industrial and commercial nation. It is not enough that the land must be more liberally fertilized, but the throng of bright, energetic young men of the rural districts who now flock from the communal to the industrial, technical, and commercial schools, and thence into factories and counting houses, both at home and abroad, must be turned back to the drudgery of the farm. Can this be successfully done? Can the agrarians, who promise, if protected from the cheap food products of America and Australia, to furnish the future food supply of Germany, make farming so attractive that it will retain the best brain and brawn of coming generations and attract the capital that now earns such abundant profits from industry and trade? Can the vast food import of the Empire be cut off or even largely diminished by artificial restrictions without provoking reprisals from which the now flourishing foreign commerce of Germany, which has been built up with such splendid energy, skill, and foresight, would wither and decline?

The harvest of 1899, which was of rather more than average abundance in Germany, yielded, according to Professor Delbruck, 5.9 centners of rye, 7.5 centners of wheat, 6.85 centners of barley,

and 49.9 centners of potatoes per hectare, which would equal, approximately, 262 pounds average per acre of rye, 334 pounds of wheat, 329 pounds of barley, and 2,221 pounds per acre of potatoes. At these rates Germany produced in 1889 4,323,542 metric tons of wheat, or 77 kilograms (161.7 pounds) per head of population, leaving, as already stated, a deficit of 1,370,850 tons to be filled by imported wheat, of which 710,318 tons came last year from the United States and 252,203 tons from Argentina.

Considering the high value of good farming lands in this country and the large outlay that is necessary for fallow crops and fertilizers, the question is asked whether chemical science, which has done so much for German agriculture, can not by some new method provide sufficient nitrogen at a cheap rate to restore the worn fields of the Fatherland and greatly increase the present yield of cereals. If this be possible, could the industries and through them the foreign commerce of Germany stand the severe and prolonged strain that would be caused by the general advance in the cost of food which would inevitably follow any serious attempt to cut off imported supplies, and render the growing of breadstuffs and meats sufficiently profitable to satisfy the agriculturists who now advocate such a policy?

These are, in brief, the basal elements of the problem into which the class of German economists who think of to-morrow are seeking to delve. Conflicting interests and ambitions, the struggle for life which modern inventions and social progress serve only to complicate and intensify, have brought the Empire—in respect to certain large details of policy—to the parting of the ways, and it is felt by thoughtful people that the legislation of this year will have a potent influence in shaping the economic history of Germany for many years to come.

FRANK H. MASON,
Consul-General.

BERLIN, *March 9, 1900.*

HUNGARY AND THE GERMAN MEAT-INSPECTION LAW.

In the semiofficial part of the organ published by the Hungarian Ministry of Commerce, under date of the 11th instant, I read the following:

Austria-Hungary is immediately affected, as well as the United States, by the prohibition law under consideration. The meat export from our common customs district has been regulated enough already, though it still amounts to some 1,800,000 marks ($450,000). But there is another point of view from which to judge. It is well known what difficulties are raised by the Germans against the import of

live animals for slaughter, and that we have had to offset them by increasing and pushing our export in every possible way. If the new bill remains as it now stands, the development of our meat export would not perhaps meet with great difficulties. The federal council of Germany could only exclude Hungarian meat in a legal way by proving its unhealthy condition after repeated experiments. It would probably not be difficult to come to some agreement with the German Government; we might even accept such a condition as that the German Government should convince itself of the proper inspection of meat intended for export to Germany through its own officers. However, the entire prohibition of any import, as planned, entirely excludes this possibility.

But we can not lose sight of the fact that the tariff war which would immediately arise between Germany and the United States would not leave us unaffected. The great quantities of American meat, having lost the German market, would seek the road to ours, and thus become a burden upon our own agriculture and meat industry, while the many millions of German manufactures shut out from America by such a law would exercise an evident influence upon our economic relations.

From the above, it is seen that Hungary would be willing to submit to the dictates of German inspectors, but dreads any sudden change in the present condition of the German market, on the basis of which her calculations have always been and still are made.

FRANK DYER CHESTER,

BUDAPEST, *March 12, 1900.* *Consul.*

LABOR AND WAGES IN GERMANY.

Fifteen years ago, the number of working people in the German Empire, according to the bureau of statistics, was placed at 7,340,789; to-day it is estimated at 10,900,000, of whom 2,100,000 are females. With the increased cost of living, as compared with seven years ago, and the disproportionate advance in wages, the outlook for the toilers is anything but favorable.

In this district (Pomerania) the daily expenses of food for a man, wife, and two children can be estimated as follows: One large loaf rye bread, 40 pfennigs (9.42 cents); coffee, 15 pfennigs (3.57 cents); sausage, meat, or cheese, 50 pfennigs (11.9 cents); potatoes, 15 pfennigs (3.57 cents); sundries, 30 pfennigs (7.14 cents); total per day, 1.50 marks (35.7 cents).

Two rooms usually constitute their living apartments and average about 10 marks ($2.38) per month. Ready-made clothing is cheap. Shoes are expensive, and as a substitute "pantoffels" are used, which consist of a sort of half shoe, with either heavy felt or wood soles, and a covering from toe to instep only. Children's sizes, with wood soles, sell for 10 cents a pair; adults' sizes, 15 to 20 cents a pair. The average price of coal in Stettin is 95 pfennigs per 100 pounds German, or 19 marks ($4.52) per 2,204 pounds American

weight. Petroleum costs 50 per cent more than at home. Household furnishings are very expensive.

I quote the wages paid per month, with board, to household servants for the years 1885 and 1899:

Class.	1899.	1885.
Housekeepers	$5.95	$4.46
Cooks, first-class	5.95	3.57
Kitchen servants	2.14	1.78
Nursemaids	2.38	1.48
Footmen	9.52	7.17
Housemaids	2.85	2.20

The wages quoted below are those paid per week of sixty-six hours in shipbuilding yards; considerable work is also done by the piece, enabling the laborers to earn from 20 to 30 per cent more.

Class.	1899.	1885.
Carpenters	$5.28	$4.37
Joiners	5.00	3.86
Molders	6.00	.....
Fitters	5.70	3.97
Finishers		
Painters	4.52	3.10
Strikers	3.90	3.00
Riveters	4.28	3.70
Boy rivet heaters	2.85	.....
Blacksmiths	5.00	4.44
Laborers	3.14	2.92

Seamen's wages on coasting vessels (crews of trans-Atlantic steamers have an increase of about 10 per cent) are, per month:

Class.	1899.	1885.
First mate	$26.18	$29.75
Second mate	20.23	19.00
Boatswain	16.66	15.50
Seamen	12.61	11.30
Cabin boys	4.28	.....
First engineer	41.65	52.50
Second engineer	23.80	35.75
Firemen	12.61	12.50
Trimmers	12.61	12.50
Cooks	18.80	19.00
Stewards	9.75	10.00

Captains are allowed 1.75 marks (41.6 cents) per day for each officer and 1.25 marks (29.7 cents) per head for the balance of the crew with which "to find food."

The average retail prices in Stettin for meats, groceries, etc., are:

Articles.		1899.	1893.
Beef	per pound	$0.23	$0.14
Mutton	do	.20	.12
Pork	do	.20	.13
Veal	do	.30	.23
Chickens, large	each	.75	.60
Eggs (winter price)	per 16	.60	.....
Ham, raw or cooked	per pound	.35	.22
Milk	per liter	.05	.05
Butter	per pound	.28	.22
Fresh-water fish	do	.18	.12
Tea*	do	1.65	1.18
Coffee	do	.23	.....
Sugar	do	.07	.....
Flour	do	.05	.....

*The tea quoted at $1.65 is equal in quality to that for which we pay 60 cents a pound. Tea is sold as high as 12 marks ($2.85) per pound.

American labor is paid treble the wages paid German labor in the same calling, and the cost of food is from 10 to 50 per cent cheaper in the United States than in Germany.

JOHN E. KEHL,
Consul.

STETTIN, *March 8, 1900.*

GERMANY'S WINE AND GRAPE TRADE.

Consul Schumann sends from Mainz, February 20, 1900, the following statistics of Germany's imports and exports of wine and grapes for 1899, compared with 1898:

From and to—	Imports.	Exports.
Wine and must in casks.	*Cwts.*	*Cwts.*
France	647,504	12,799
Greece	32,711	.....
Italy	89,137	.....
Austria-Hungary	165,510	7,304
Portugal	61,952	.....
Switzerland	5,372	54,355
Spain	196,222	.....
Turkey	78,861	.....
Algeria	9,033	.....
Chile	3,944	.....
United States	12,267	72,509
Belgium	.....	38,390
Denmark	.....	3,634
Finland	.....	4,270
Great Britain	.....	49,772
Netherlands	.....	21,982
Russia	.....	16,095

From and to—	Imports.	Exports.
Wine and must in casks—Continued.	*Cwts.*	*Cwts.*
Sweden	.....	5,868
Other countries	5,797	7,964
Total in 1899	1,308,310	294,882
Total in 1898	1,247,021	287,403
Increase	61,289	7,479
Red wine for blending.		
France	42,885	.....
Greece	23,945	.....
Italy	146,478	.....
Austria-Hungary	11,394	.....
Spain	11,755	.....
Other countries	10,589	.....
Total in 1899	247,046	.....
Total in 1898	236,230	.....
Increase	10,816	.....
Wine for distilling brandy.		
France	14,461	.....
Italy	3,817	.....
Other countries	1,349	.....
Total in 1899	19,627	.....
Total in 1898	9,843	.....
Increase	9,784	
Sparkling wine (champagne).		
Belgium	272	3,082
France	60,817	.....
Great Britain	.....	23,366
Sweden	.....	1,841
United States	.....	2,246
Other countries	271	9,673
Total in 1899	61,360	40,208
Total in 1898	59,386	39,644
Increase	1,974	564
Still wine in bottles.		
France	9,539	3,783
Austria-Hungary	1,492	6,384
Free-port Hamburg	.....	3,406
Belgium	.....	4,831
Finland	.....	1,742
Great Britain	.....	63,699
Netherlands	.....	15,352
Norway	.....	1,894
Russia	.....	3,326
Sweden	.....	4,442
Switzerland	.....	1,657
British West Africa	.....	2,066
French West Africa	.....	1,784
British East India	.....	2,011
China	.....	3,830
United States	.....	37,107
Other countries	3,702	18,319
Total in 1899	14,733	175,634
Total in 1898	14,731	175,279
Increase	2	355

From and to—	Imports.	Exports.
Spirits in casks.	*Cwts.*	*Cwts.*
France	48,585	.....
Great Britain	13,152	.....
Netherlands	8,512	.....
Netherlands colonies	8,103	.....
British West Indies	19,833	.....
United States	2,270	.....
Free-port Hamburg	.....	5,135
German West Africa	.....	4,585
Other countries	3,071	37,512
Total in 1899	103,526	47,232
Total in 1898	98,666	43,835
Increase	4,860	3,397
Spirits in bottles.		
France	2,948	43,846
Great Britain	288	.....
British West Africa	.....	115,397
German West Africa	.....	12,885
Kongo State	.....	7,181
Portuguese West Africa	.....	12,571
Japan	.....	129,246
Other countries	717	11,374
Total in 1899	3,953	332,500
Total in 1898	3,897	390,612
Increase	56	.....
Decrease	.....	58,112
Dessert grapes.		
France	12,857	.....
Italy	184,611	.....
Austria-Hungary	22,878	169
Portugal	1,377	.....
Spain	19,747	.....
Switzerland	.....	730
Other countries	5,955	416
Total in 1899	247,425	1,315
Total in 1898	185,731	598
Increase	61,694	717
Common grapes.		
France	126,720	106
Italy	336,624	.....
Austria-Hungary	106,713	.....
Spain	26,959	.....
Switzerland	.....	75
Other countries	22,334	20
Total in 1899	619,350	201
Total in 1898	540,147	118
Increase	79,203	83

Value of the imports and exports in United States gold.

Description.	Imports		Exports.	
	1899.	1898.	1899.	1898.
Wine and must in casks	$7,982,520	$7,608,622	$2,201,262	$2,080,120
Red wine, etc., for blending	723,282	690,200	.....	.....
Wine for distilling brandy	46,648	23,800	.....	.....
Sparkling wine (champagne)	1,493,450	1,433,950	491,470	484,568
Still wine in bottles	264,656	267,512	2,622,046	2,767,940
Spirits in casks	1,657,670	1,558,424	148,274	116,144
Spirits in bottles	183,498	182,070	1,234,070	1,281,154
Dessert grapes	1,183,098	854,658	8,568	3,570
Common grapes	1,387,540	1,020,306	714	238
Total	14,922,362	13,639,542	6,606,404	6,733,734
Increase	1,282,820	.....	.....	.....
Decrease	.....	.....	127,330	.....

UNITED STATES FRUIT IN GERMANY.

The Hamburg-Altona Fruit and Vegetable Verein, at its last meeting, protested against the establishment of a duty on imported fruits. The Ministry of Agriculture at Berlin has presented statistics of the importation of fruits, especially of fruits from the United States, and advocates a protective duty. It is claimed by the Verein that this course is pursued wholly in the interest of the agrarians, and it voted unanimously in favor of a protest, on the ground that Germany would suffer damage through the prevented importation of the American fruits, for the reason that the price of domestic fruits would be greatly increased, to the detriment of German consumers.

The following statistics show the importation of fruits from the United States during the past five years:

Year.	Fresh fruit.		Dried plums.		Dried fruit.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	D. centners.		*D. centners.*		*D. centners.*	
1898	23,718	$127,813.14	5,059	$67,884.74	37,505	$601,361.74
1897	69,280	332,233.72	10,471	142,838.08	60,770	737,845.22
1896	48,000	197,515.24	2,134	37,989.56	39,978	489,258.98
1895	4,041	23,364.46	1,590	27,053.46	26,937	386,607.20
1894	3,144	14,760.76	1,446	6,813.94	11,188	187,239.36

It is claimed by the Verein that "because of the supposed detection of live Schildlaus on fresh apples and through the pretended poisoning from apple cuttings from the United States" the importation of such fruits into Germany has very greatly decreased. The statistics above given clearly prove the fact of the decrease.

HUGH PITCAIRN,

HAMBURG, *March 2, 1900.* *Consul.*

AMERICAN LOCOMOTIVES IN GERMANY.

On the 13th of February last* there was forwarded to the Department from this office an editorial article, with translation, from the Fränkische Curier, of Nuremberg, embodying a letter which had been sent by the Bavarian State railway administration to the two leading makers of locomotives in that Kingdom, wherein it was explained that the principal purpose of the Bavarian Government in ordering a number of American locomotives for service on the State railways was to give Bavarian engineers and engine builders ample opportunity to test, study, and imitate, so far as should prove desirable, the superior features of the American machines.

A second chapter of this interesting episode appears in a paragraph which is herewith translated from the Bürger-Zeitung, of Berlin, issue of March 21, 1900, as follows:

> The Prussian State railway administration also intends to soon make a trial of American locomotives. These machines have shown that by reason of their great boiler space and heating surface, they are more efficient and economical. The Ministry of Public Works at Berlin has directed that specifications of locomotives of American models shall be laid before it in order that it may ascertain, through trials of freight and passenger engines, whether the introduction of that system here is advisable. The similar tests which the Bavarian State railways have made with American freight engines have had the most satisfactory results; they have, as the minister reports, "with faultless performance, cost considerably less than locomotives of similar class belonging to the Prussian railway system." It need hardly be explained that if these engines demonstrate their superiority and are adopted, they will not be built in any foreign country.

This final naïve reassurance to German machinists on the part of the Bürger-Zeitung was quite unnecessary. It has been evident from the first that the American locomotives brought to Germany during the past six months were—like American stoves, machine tools, pumps, and various other machines and articles not patented in this country—intended mainly to be tested, studied, and used as models to be imitated by German builders. It is a sincere and flattering compliment, and, although not directly and largely profitable to American builders, has still its value as an illustration of the importance of protecting as far as possible, by German patents, every American invention or improvement that is sold for use in this country.

FRANK H. MASON,
Consul-General.

BERLIN, *March 24, 1900.*

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*See ADVANCE SHEETS No. 679 (March 16, 1900).

AMERICAN LUMBER IN ROTTERDAM.

The Rotterdam market for American hard lumber was very good during the month of January; and, owing to the heavy demand from Germany, the export trade to that country has been so lively that Messrs. J. C. & Th. H. Leyenaar, the leading importers of American lumber, report their stocks practically exhausted.

The local demand—particularly for logs—has, however, left much to be desired; but during the last few days it looks as if the Holland trade also is improving.

For the list of prices given below, I am indebted to the courtesy of the above-mentioned lumber firm. Quotations are for logs per 1,000 feet Scribner rule and for lumber per 1,000 feet board measure.

Of walnut logs, only a few parcels of small dimensions are on hand. Good logs 16 inches and up to 22 or 23 inches will bring $90 to $95; 18 inches and up to 22 or 23 inches, $110 to $115.

White-oak logs, 24 inches and up, bring from $43 to $45.

Whitewood logs, 28 inches and up, $40 to $42.

White-ash logs are not in stock, and shipments of good quality will be very well received; price for logs, 14 inches and up, $44 to $45.

Of hickory logs, a few cars would do well; if good quality and with small, brown heart they would bring $50.

Of gum logs, over 100 are on hand and no buyers.

Persimmon logs, 12 inches and up, sell for $17 to $19 per 1,000 feet.

White-oak boards and planks, 1 to 4 inches, sell for $47 to $52.

White-oak stair steps, 1¾, 2, and 2¼ inches by 11, 12, and 13 inches, $52 to $53.

White-oak strips, 1¾ by 4, 5, and 6 inches, 8 to 16 feet long, $45 to $46.

White-oak parquet strips are in small demand; 1 by 4, 5, and 6 inches, $40.

Oak scantlings, 3 by 3 inches, 4 by 4 inches, 8 to 16 feet long, $40 to $42.

Walnut lumber is in good demand; 1 inch, $109 to $118; 1¼, 1½, 1¾, and 2 inches, $115 to $118; 2¼ to 4 inches, $122 to $125.

Of satin-walnut lumber, all stocks are cleared, and the demand is lively; 1 inch, $40 to $41; 1¼ to 1½ inch, $42 to $43; 1¾ to 3

inch, $44 to $46; three-eighths, one-half, and three-fourths inch are in equal demand.

Cottonwood lumber, three-eighths inch, $19 to $20; one-half inch, $18 to $19; three-fourths inch to seventeen-eighteenths inch, $28 to $29; 1¼ to 2 inches, $29 to $31.

Ash lumber, 1 to 3 inches, $40 to $52.

Red cypress, 1 to 2 inches, $35 to $38.

S. LISTOE,
Consul.

ROTTERDAM, *March 6, 1900.*

AMERICAN BOOTS AND SHOES IN RUSSIA.

Acting Consul Monaghan, under date of March 3, 1900, transmits the following translation of a letter received by him from Mr. Eugen Alexander, a shoe dealer of St. Petersburg, Sabalkanskij Prospect No. 128, relative to the outlook for American boots and shoes in that Empire:

In the issue of the 13th of January, 1900, of the Ledermarkt (Frankfort) there is a note stating that you (United States consul at Chemnitz) gave it as your opinion before the Brockton Chamber of Commerce that there would be a sale for American shoes in Germany, Russia, Sweden, etc., if the goods were properly introduced to the people. Being an expert, and thoroughly acquainted with Russian conditions, I beg to offer you my experience, especially as regards the Russian shoe market.

There is very little imported. The reasons are as follows:

(1) The Russian demands a light boot above everything, and can get it in domestic makes. The German shoe manufacturer pays more attention to durability than to lightness. According to my opinion, both these qualities could be combined. The only factory that claims attention here in St. Petersburg is the St. Petersburger Gesellschaft fuer Mechanische Schuhfabrikation, which uses excellent leather, produced in its own tanning yards. This factory sends large quantities of shoes and boots into the interior of the Empire. Still lighter than the shoes made by this firm are those produced in several Warsaw factories, which are bought here extensively.

(2) The annexed extract from the Russian tariff shows how difficult the import of shoes is, owing to the high duties.

If American manufacturers decide to export their product to Russia, I am quite of your opinion—the goods must be adequately introduced. Considerable monotony prevails here as regards shapes, so that really elegant shoes would in time make their way. The duty is of no account when once a demand has been created, as a few rubles more would be readily paid for a fine boot by the better Russian public.

Regarding paragraph 5 (tariff), please note that the articles therein mentioned are imported almost entirely, and I believe America could in time do considerable business in them. Nearly the same applies to article 6 (straps), which line is mainly supplied by England. I shall be happy to give further information, and shall be gladly at the service of parties interested in entering the Russian market.

Extracts taken from the Russian tariff laws covering leather goods.

Article 57.—Goods made of leather.	Duties per pound (Russian).*	
	Gold.	U. S. currency.
	Rubles.	
(1) Foot wear of every kind (excepting goods specially mentioned), finished and dressed	1.00	$0.515
Leather of every kind cut ready for shoes and small goods	.75	.386
(2) Foot wear for ladies, of silk material and kid, finished and dressed	2.00	1.03
Preferential tariff, foot wear for ladies of kid, finished and dressed	1.70	.875
(3) Leather gloves of all kinds, manufactures of chamois, patent leather, morocco, parchment, excepting shoes and surgical apparatus	3.00	1.545
Preferential tariff:		
Leather gloves of all kinds	2.55	1.313
Manufactures of chamois, patent leather, morocco, parchment, excepting shoes and surgical apparatus	2.00	1.03
(4) Harness and belongings, saddlers' goods, riding whips of leather thongs	.55	.26
(5) Traveling trunks, traveling bags, traveling and hunting pouches of leather, thick jute and hemp cloth, leather notebooks and portfolios, leather finished for bookbinding; leather fabrics of all sorts not specially mentioned; also in combination with metallic parts or other materials, if not belonging to the class of valuable ornaments (bijouterie)	.70	.36
Preferential tariff, notebooks and portfolios of chamois, patent leather, morocco, parchment	.70	.36
(6) Machine belts, unseamed and seamed, leather picks for weaving looms, small circular driving belts, whips, buckets, etc., and similar coarse leather manufactures	.20	.103
Supplement:		
Ladies' shoes of chamois	1.00	.515
Traveling bags, purses, cigar cases, and other similar articles; also if made of morocco or chamois, as per article 57 (5), same as notebooks	.70	.36

* 1 Russian pound = 14 ounces; 1 gold ruble = 51.5 cents.

LICENSES FOR FOREIGN FIRMS DOING BUSINESS IN RUSSIA.

The Russian law with reference to foreign firms doing business in this country is summarized as follows:

Under the provisions of article 57 of the law of the 8th of June, 1898, relating to the taxes upon trade, such commercial houses only shall have the right to employ commercial travelers in Russia as have paid the tax of the first class; and such manufacturing industries only as have paid the taxes of the first three classes. This applies equally to commercial houses and manufacturing industries, whether they have or have not establishments of their own in Russia.

The first-class tax for commercial houses is 500 rubles ($257); those for manufacturing industries are 500, 1,000, and 1,500 rubles ($257, $515, and $772). In addition to this, each commercial traveler is required to pay an individual tax of 50 rubles ($25.75) per annum.*

Manufacturing industries which have no factories of their own in Russia but carry on a wholesale trade within the Empire through the medium of commercial

* In the dispatch accompanying the report, Consul Heenan says that the tax will probably be reduced when the tariff relations between Russia and Germany are readjusted.

travelers are classed with commercial houses; they pay a tax of 500 rubles, therefore, instead of those ranging from 500 to 1,500 rubles provided for manufacturers. The taxes on manufacturing and trading are assessed according to the official permits granted for the purpose of carrying on either manufacturing industries or trade within the Empire; therefore, a commercial traveler who wishes to obtain an individual permit to do business in Russia must show as his authority either the original permit of his principals or a legally certified copy of it.

No commercial traveler will be allowed to transact business within the Empire as representative of a commercial house or manufacturing industry until such commercial house or manufacturing industry shall have obtained the prescribed permit, which is to be done either by an application made directly by the principals themselves or by an authorized commercial traveler in their behalf. Manufacturing industries and business houses which have obtained the prescribed permit to carry on their business within the Empire may employ any number of commercial travelers they see fit, provided that each of such commercial travelers shall pay an annual tax of 50 rubles ($25.75) for that purpose and shall obtain an annual permit.

It is important that business houses in the United States engaged in the Russian trade should understand that any attempt to do business in Russia, without first complying with the requirements of the above law, may be attended with serious consequences to those who may happen to represent them in this country. It is a curious comment to make, but Americans who would not for a moment entertain the idea of evading a State or United States law come abroad and act as if they were under the impression that the laws of a foreign state did not apply to them. I am led to make this remark as the result of my experience with the representatives of very well known American firms who have recently traveled from the Baltic to the Black Sea and sold their goods en route without either a traveler's license or the original permit required by the terms of the Russian law. I pointed out the danger to these travelers, but was informed that "it [the law in question] was not good enough for Americans."

It is permissible under the construction placed on this law to take out the license for six months, paying 250 rubles ($128) for the same. This, however, does not apply to the tax on commercial travelers (50 rubles), which must be paid in full whether the traveler remains in the country for one month or one year.

The following questions have been asked in connection with this tax:

(1) Where can a firm or commercial traveler apply for and obtain said license? At the office of the imperial treasury in each town.

(2) When a firm has an agent or several agents located in Russia selling its goods, and a principal or representative of said firm visits these agents for the purpose of settling accounts and making contracts for their employment, but making no actual sales, would such principal or representative be considered as a commercial traveler and require a license? The answer is, No; but, in order to obtain

this exemption, he must produce his firm's permit to do business in the country.

(3) When a firm has an agent residing within the Empire who pays tax according to law and who is employed by said firm to solicit orders, for which it pays the agent a commission, would said firm be obliged to take out a license to do business? The agent represents the principal, and, as the principal is doing or attempting to do business in Russia, the license for this business must be paid. The payment of this tax, or license, gives the principal the right to have an agent in each town if he pleases.

A traveler who is authorized to obtain a permit for his firm to do business in Russia should be provided with a power of attorney from his firm to act in its name and apply for said license. This power of attorney must have the certification of a Russian consul residing in the United States, stating that the document is in accordance with the laws of the State in which it was drawn up and signed. The entire document must be translated into the Russian language and have translation attached to the original.

Firms sending many travelers into Russia must provide each with a certified copy of the permit for said firms to do business, and such copies should be procured from a Russian consulate in the United States or through a notary in Russia.

The question of the penalty which would be inflicted for doing business in Russia without a license is one which rests with the courts. It has been asked whether the courts would deprive a firm thus offending of the right to collect its accounts, and, while there are no precedents, it is the general opinion in legal circles here that the court would not take so extreme a course, but would inflict a heavy fine and restrain the offending parties from doing further business in Russia. Whether, in addition to the fine, imprisonment would be inflicted is not known, though there is a very general consensus of opinion that the court might condemn the offender to a short term of imprisonment—say, three months—especially in the early cases, as an example. This term of imprisonment in the Odessa jail would not be the serious affair it would have been some years ago, before the new prison on the American model was built. The principal feature of the new prison is its solitary-confinement cells. In the old prison, and in many of the prisons in the interior of Russia, solitary confinement is a luxury which does not exist. Old offenders who are brought before the courts have been known to beg the court to be merciful and not send them to the American jail. They are willing to take a much heavier sentence if sent to any one of the old overcrowded prisons.

THOS. E. HEENAN,
Consul.

ODESSA, *February 24, 1900.*

TRUSTS IN GREAT BRITAIN.

Consul Halstead writes from Birmingham, March 1, 1900, in regard to the apathy with which the people of Great Britain regard the formation of trusts.

The news editor of the London Mail (circulation, one million two hundred and odd thousand) gives only some thirty-two lines to an item of the kind, and the editor in chief is not disturbed to the extent of a single editorial paragraph. Except an approving paragraph or two in the financial columns when the flotation is advertised, one can look in vain in other papers for either news or editorial notice referring to English trusts. Mr. Halstead continues:

I have a clipping from the February 1 issue of the London Daily Mail. It is an announcement of a proposed formation of a worsted spinners' trust. This trust is to have a capital of £18,000,000 ($87,597,000), and one hundred and six firms are concerned; yet the news editor of the Mail judges this item to be worth only a two-line head, twenty-eight lines of small type, set solid. The item is as follows:

ANOTHER HUGE TRUST.—BRADFORD SPINNERS DISCUSS AN £18,000,000 COMBINE.

A meeting of spinners engaged in the worsted trade was held yesterday in Bradford to consider the question of forming a combination of firms in that branch of business. One hundred and six firms were represented.

Mr. Scott Ling, of Manchester, who presided, explained that it was proposed to buy out firms on the basis of allowing nothing for good will of concerns which show only 5 per cent profit. All profit beyond 5 per cent would be multiplied seven and a half times, and that amount allowed for good will. On such a basis, he calculated they could show 7½ to 8 per cent for ordinary shareholders.

A resolution in favor of combination was unanimously passed, and the following committee appointed to devise a scheme: Mr. Ickeringill, of Keighley; Mr. James Drummond, of Bradford; Mr. Alfred Haley, of Wakefield; Mr. A. Anderton, of Check-heaton; Mr. J. Hoyle, of Halifax; Mr. Smithies, of Elland; and Mr. H. Whitehead, of Bradford.

Opinion is divided as to the possibility of a successful combination. Some put the probable total capital at £18,000,000.

I take from the same issue of the Daily Mail the following extract in regard to the amalgamation as a "trust" of two great South African steamship companies:

CAPE SHIPPING COMBINATION.

Details are now fully arranged of the recently announced amalgamation of the two well-known Cape mail companies.

The object of the amalgamation is to provide for the more efficient working of the South African trade and for the carrying out of the joint mail contract which the companies have made with the Cape government for ten years from October next.

The Castle Company changes its name to the "Union-Castle Mail Steamship Company, Limited," takes over the property and liabilities of the Union Company, and increases its nominal capital to £2,000,000. The directorates also combine, and Sir Francis Evans, chairman and managing director of the Union, joins the firms of Donald Currie & Co. in the control of the amalgamated concern.

A new 4 per cent debenture stock will be created, for which the shareholders in both companies will be allowed to exchange their present stock.

It is proposed that the shares of the united company shall be £10, instead of £20 shares, and the shareholders of the Union Company will receive for their paid-up capital an allotment of an equal nominal amount of fully paid-up shares of the Union Castle Company, and in addition will receive £6 13s. 4d. per share, payable in 4 per cent debenture stock.

NEW METHOD OF DIMINISHING THE FORCE OF WAVES AND SURF.*

An Italian gentleman, Baron Benvenuto d'Alessandro, living in Paris, 62 rue Bossière, has invented a new method of protecting vessels at sea, entrances to harbors, light-houses, etc., from the force of waves and surf, which he claims is more efficient than the use of oil.

His invention consists in retaining on the surface of the water an unsubmergible floating net by means of outriggers when used to protect vessels in storms at sea, and by attaching it to buoys when used to protect light-houses, hydraulic works in construction, entrances to harbors, etc.

He bases the idea of his invention upon the principle that in covering the surface of the sea with a thin, flexible, light, and floating body of whatever nature, the part covered forms a crust under which the molecules of the imprisoned mass of water can not move in the same manner as the surrounding body of uncovered water, the result being that even the most violent waves, upon reaching the edge of the crust, instead of climbing over it, of breaking or of destroying it, will pass under it as if there were a fall or difference of level, become flattened out, and lose much of their force.

The net used in the recent experiments at Havre was made of a thin hemp fiber, knitted in square meshes of 4 centimeters (1.57 inches), and afterwards waterproofed by the application of a solution of powdered cork and pure rubber. The material of the finished net was 3 millimeters (0.12 inch) in thickness and light, weighing only 120 grams (4¼ ounces avoirdupois) per square meter (10.76 square feet). It was constructed by the Société Industrielle de Telephones at Paris.

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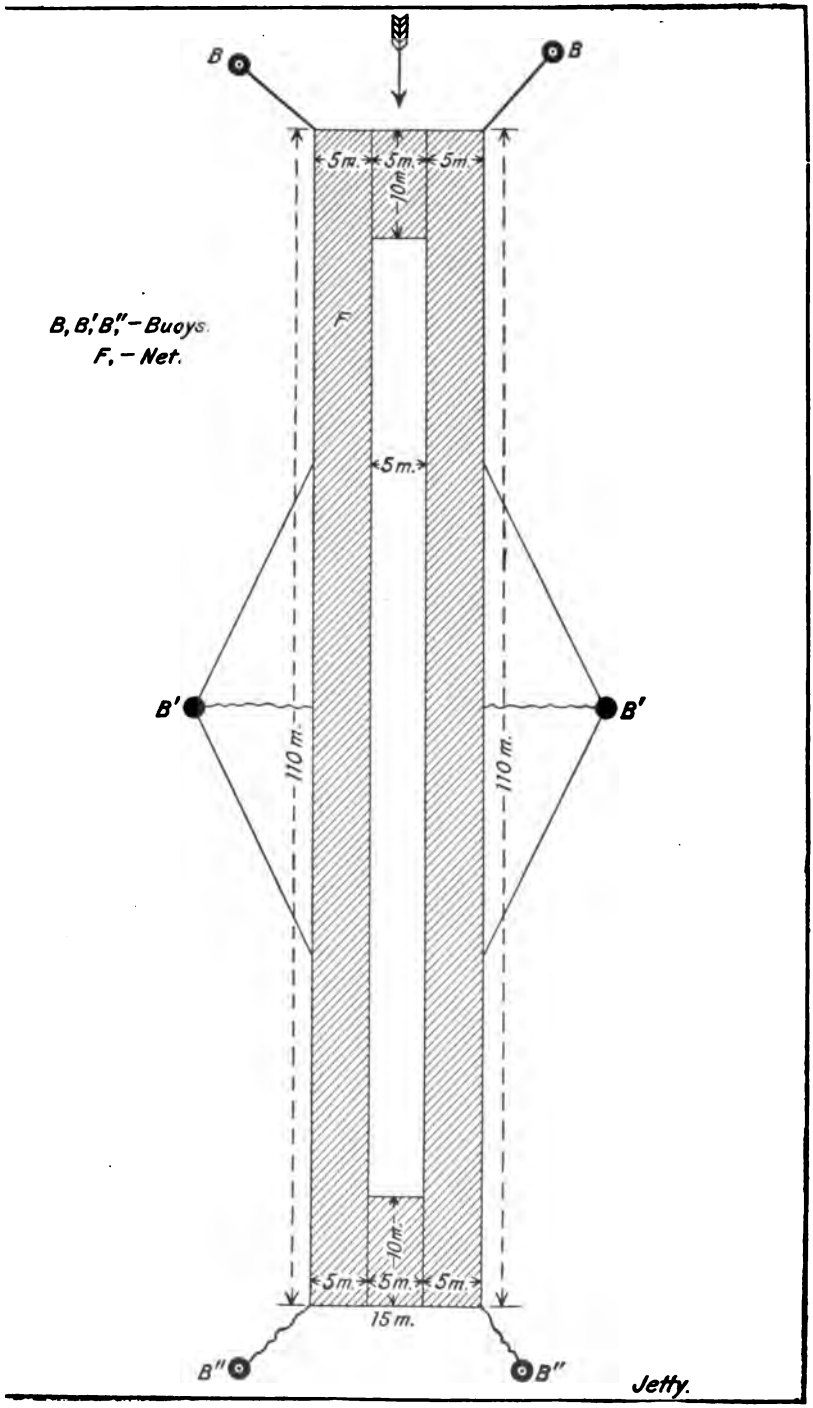
*This report was made in answer to inquiries by a resident of Washington, to whom ADVANCE SHEETS have been sent.


B
B
5m.
5m.
5m.
10m.
B, B', B''– Buoys.
F, – Net.
F
5m.
B'
B'
110 m.
110 m.
10m.
5m.
5m.
5m.
15 m.
B''
B''
Jetty.

The net was 110 meters (360.9 feet) long and 15 meters (49.2 feet) wide, made in four sections, securely fastened together. The two outside sections were 5 meters (16.4 feet) wide throughout the whole length of the net. The middle sections were also 5 meters (16.4 feet) wide, but extended only 10 meters (32.8 feet) from either end, leaving an open space in the center of the net 90 meters (295.27 feet) long and 5 meters (16.4 feet) wide. The inventor's reason for constructing the net with an open space in the center is that in his numerous experiments with the net made in this way, when used for the protection of entrances to harbors, etc., he found the surface of the water inclosed in the free spaces to be always calm, as if it were actually covered by the net. The net with the open space is only used when it is anchored. For the protection of vessels at sea, the net is made solid.

The accompanying sketch shows the dimensions of the net and the arrangement of the buoys by which it was held in position.

To illustrate the efficiency of the net in protecting hydraulic works in course of construction from the effects of a heavy surf, Baron d'Alessandro, about three weeks ago, placed his net off the middle of the north jetty of the new avant port of Havre, which is now finished for about 400 meters. The buoys *B B* were anchored in 50 feet of water, at high tide, in a position to secure the head of the net in the direction of the prevailing westerly winds and perpendicular to the jetty; the buoys *B'' B''* being about 100 meters (328 feet) from it. At first, only four buoys were used—*B B* and *B'' B''*—but the anchors not being heavy enough to stand the force of the current, the buoys dragged, allowing the net to be slackened and take the form of a crescent. Afterwards, the buoys *B' B'* were added and the weight of the anchors increased. During a heavy westerly gale, recently, the net was held in position; but, on account of the seas hurling themselves against the jetty and breaking over it, it was impossible to approach near enough to observe the effects which the net produced upon the portion of water protected.

Mr. d'Alessandro is not discouraged by the unsatisfactory results of his experiments at Havre and intends in the near future to place his net in another position, in which, while being exposed to the heavy seas, it can be readily seen from the shore and its action judged.

Other trials have been made of the floating net—in 1891 at Quiberon, Department of Morbihan, and in 1892 at Cherbourg. The following are translations of the report made by Captain Lequellec, chairman of a committee of the Société de Sauvetage, at Quiberon, to the president of the Société Centrale de Sauvetage,

at Paris, and of notes upon the trials at Cherbourg taken from Baron d'Alessandro's pamphlet called Le Filet Flottant:

QUIBERON, *November 14, 1891.*

The PRESIDENT: I have the honor to call the attention of the Central Life-Saving Society to the trials which were made in our waters of a floating net which is intended to be used as a protection against the force of heavy seas and as an advantageous substitute for oil. This net, which is very simple, is covered with a composition which renders it buoyant and unsubmergible and has a surface of about 1,000 square meters (1,196 square yards).

I, together with the captain of the life-saving boat, Mr. Le Chanjour, assisted the inventor, Baron d'Alessandro, during the different trials which have been made since September 12. He has shown us many different ways of placing the net. At first it was anchored at each end, lengthways across the waves; but, finding that the resistance was too great and that it was impossible to continue the trials, we changed it.

On November 9, we anchored one end of the net head to the wind, leaving the other free to float in the breakers. During the evening of November 10, the results were favorable. The waves did not break on the surface of the net and the effect was absolutely the same as if oil had been used.

We also observed that when the boat was under the lee of the net the sea was smooth, and the contrary was true when the boat was withdrawn from its shelter.

During the trials in company with the Baron and the captain of the boat, I have been able to see that this net would be of great service to our navy and merits further attention.

Very respectfully yours,

LEQUELLEC,
Chairman of the Committee.

LE CHANJOUR,
Captain of the Life-Saving Boat.

Signatures were legalized by the mayor of Quiberon.

NOTES OF THE TRIALS AT CHERBOURG.

At Cherbourg, the same nets were anchored in the open, with anchors, chains, and iron buoys, and exposed to the force of the wind and sea.

(1) From the 21st to the 30th of January, 1892, calms and heavy seas.
(2) From the 28th to the 29th of April, 1892, heavy seas.
(3) During the whole of March 3, 1892, heavy seas.
(4) From the 14th to the 15th of June, 1892, heavy seas.
(5) From the 12th to the 14th of October, 1892, storm.

The nets in all these trials had the effect of calming the seas and kept afloat during the whole time, without changing position or receiving any damage.

The results of any future experiments which may be made by Baron d'Alessandro at Havre will be the subject of a supplementary report.

A. M. THACKARA,
Consul.

HAVRE, *February 22, 1900.*

ELECTRIC RAILWAY IN NOTTINGHAM.

Following the lead of Liverpool, Sheffield, Bradford, Glasgow, Manchester, and other cities of Great Britain, it is promised that an electric street-railway service will soon supersede the present horse tramways in Nottingham. The present system is probably as antiquated as any in England. There are, in fact, three main systems or lines, each extending from near the central portion of the business section to the railway depots or outskirts, the whole comprising only about 6 miles of track; but there is no central depot, the down-town termini being several blocks distant from each other. No transfers are given, each line being conducted independently. The fares vary in a peculiar manner. On one of the three lines, which is about 1 mile in length over level ground, the fare is 1d. (2 cents). The other two lines have each one steep and long hill on their routes. If you desire to travel the full length of one of these lines, 2d. (4 cents) will be charged. If you desire to ride only to the top of the hill, the same fare will be charged. If, however, you happen to be on the top of one of these hills and desire to ride down either way, the fare is only 1d. (2 cents). This variation of charge is made, as the authorities explain, because a third horse is necessary to pull the heavy trams, which are modeled after the London 'bus pattern, with seats on top, up the hills. This tram service is supplemented by a number of 'buses, which carry patrons not only along the regular routes, but to suburbs beyond the limits of the tram lines. Upon these, similar fares are charged. Double tracks for the trams exist only on portions of the routes, and trams run about every ten minutes. When once the seats are full, inside and out, not another passenger is admitted.

One result of the imperfect system has been the creation of a fine, comprehensive, and reasonable cab service. That an adequate modern electric system will find an abundant field here, and that it will revolutionize present conditions to a great extent, is apparent. Opportunity is also afforded for the introduction of devices found to be successful in the United States.

Originally, the tram system was introduced and owned by a private company. Its operation was supposed to be profitable, and after considerable local agitation the city bought the system in 1897 and assumed control in June, 1898, paying par value for the stock—approximately £80,000 ($389,320). A large number of additional employees were put in service, new cars and horses added, and im-

provements made in time schedules; but it seems to be questionable whether these improvements have paid. At the time of purchase, the question of electricity was agitated and a grant for the purpose finally obtained from Parliament. Committees from the council were appointed to investigate electric service elsewhere, and last year the United States was visited for that purpose by local engineers. The overhead idea was finally adopted, and it is announced that by December 25 of this year one branch of the proposed system will be in operation, the others to follow quickly. No statement is obtainable as to when the whole system will be complete. The city owns both extensive gas and electric-light works, and it is assured that no expense will eventually be spared in creating a modern street-railway system, with a central depot and adequate suburban service.

Contracts for experimental motors have been placed in Sheffield. If not satisfactory upon trial, other offers will be considered. The bodies of the cars will be built in England, but a Philadelphia firm is under contract to make and deliver the wheels. The wire contracts are likely to go to New Jersey. American steel rails are also under consideration. American bids for miscellaneous material will receive attention, and inquiries should be addressed to Mr. Arthur Browne, city engineer.

S. C. McFARLAND,

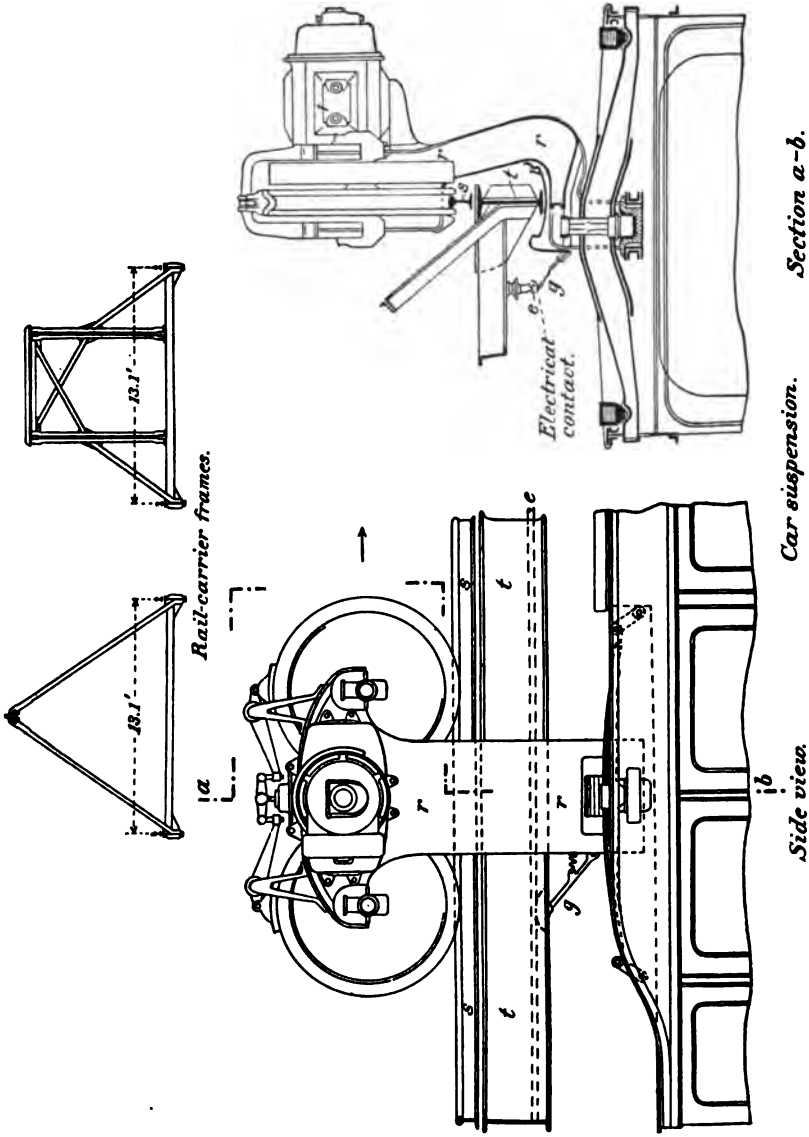
NOTTINGHAM, *March 14, 1900.* *Consul.*

BARMEN ELECTRIC SUSPENSION RAILWAY.

A double-railed line, 8.3 miles in length, with eighteen stations, has been partly constructed in Barmen according to the single overhead-railway system of the Langen patent. This is, I understand, the first suspension railway for the conveyance of passengers that has been built.

The road commences at Barmen-Rittershausen and follows the River Kupper through the thickly populated cities of Barmen and Elberfeld. Beyond Elberfeld, the line extends toward the west as far as Vohwinkel, leaving the river at Sonnborn and running over the public highway to Vohwinkel.

The marginal gradient is 4.5 per cent. All gradients and curves are so arranged as to avoid a decrease of speed in the main lines. The iron framework over the river is supported by buttress piers of ironwork inclined toward each other; but in the public highways the structure is supported by vertical iron columns, which require no more space than lantern posts.


13.1'
13.1'
Rail-carrier frames.
Electrical contact.
Section a-b.
Car suspension.
Side view.
a
b
e
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The cars are suspended on two rotary bogies, 26.2 feet in length. Each truck, or bogie, has two axles, between which an electromotor of 36 horsepower, at 500 volts, is arranged. The special construction of the trucks is shown in the figures. The frame surrounds the rail carrier in such a manner that the wheels can not rise from the rails and the cars can not slip off in case a fitting breaks or there is some other mishap. The current is fed by a contact shoe from a rail.

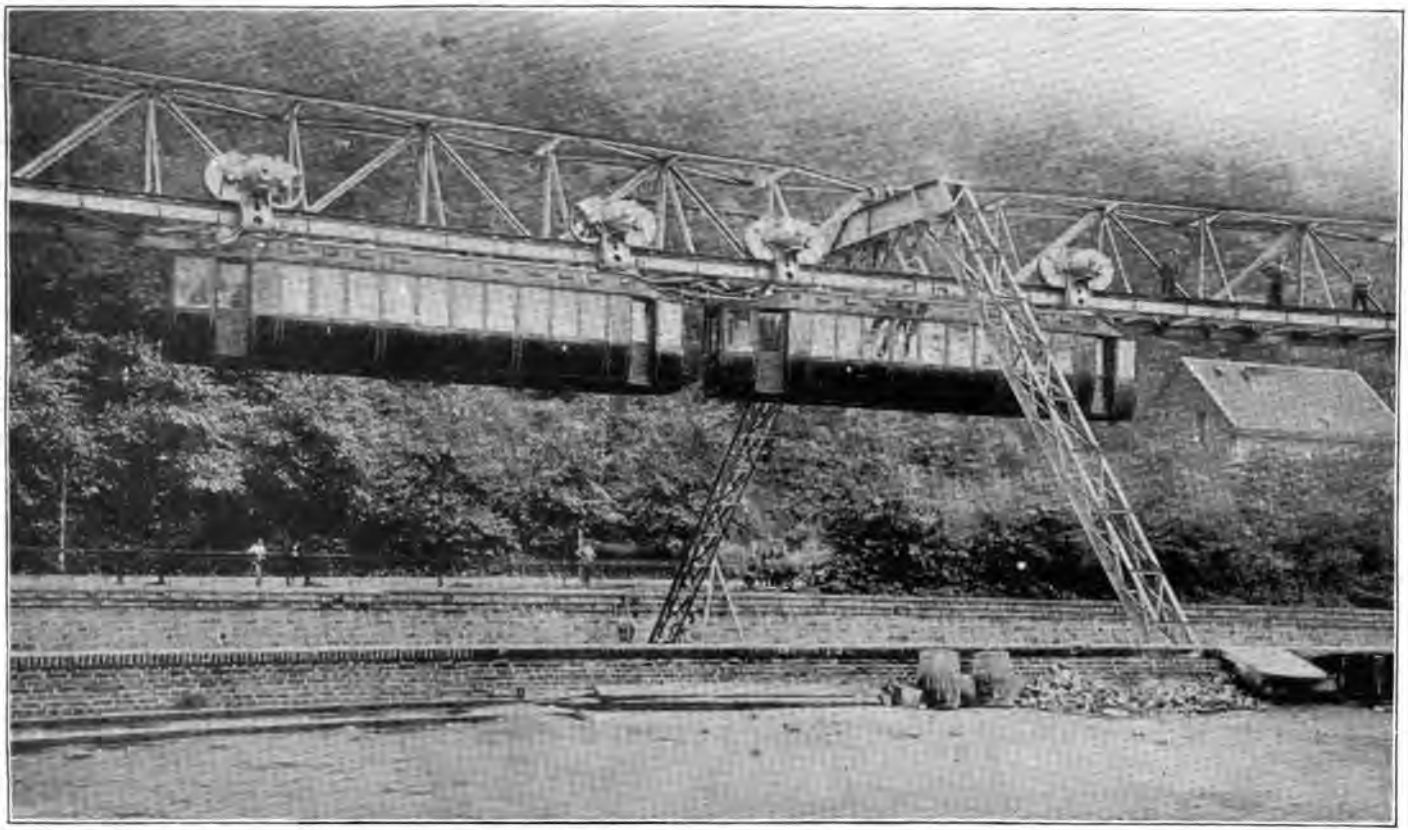
The speed will be regulated in the same manner as in electric street cars. The traveling speed is supposed to be 25 miles per hour. It takes only from 10 to 15 seconds to start; so that, in spite of the eighteen stations of the road, an average speed of 18¾ miles per hour will be maintained. Each car holds fifty passengers and is divided into first and second class and smoking compartments. The number of cars in the make-up of a train is not limited; but at first each train will consist of one or two cars only, although the station platforms are so arranged that a four-car train can receive and unload passengers. The speed of the trains is not dependent on the number of cars, as each car has its own motor.

The employment of an automatic block system, by which the car itself regulates the signals, allows the trains to start in either direction at intervals of two minutes. Braking is effected in four different ways: (1) By a Westinghouse pneumatic brake, operated by the motorman; (2) by a hand brake working on the fittings of the Westinghouse brake, operated by motorman and guard; (3) by an electrical brake; (4) by an electrical return-current brake, serving as a distress brake.

The rails are of the Haarmann system, installed on iron-plate slippers with a layer of felt to the rail supporters. These are made in T section and have a curved bottom with a slight play, which allows the cars to swing easily without running off the rails.

The stations are built on the same plan as those of the American elevated roads, with separate entrances for each platform.

The spans of the piers are very wide, owing to the difficulty of finding solid foundation on the river banks and to avoid interrupting traffic on the public road. Although the span averages 98.4 feet, the total weight of the double-railed line over the river, including the piers, is only about 838 pounds to the foot; over the highway, 783 pounds. This makes the cost of construction from $200,000 to $225,000 per mile, including the foundations and stations. Counting the rolling stock (it is intended to start a train of one or two cars at intervals of three minutes), the cost would be about $265,000 per mile. The underground railways of London involved an expense of about $1,500,000 per mile.



SIDE VIEW OF ELECTRIC SUSPENSION RAILWAY, BARMEN-ELBERFELD.

The car station at the terminus in Vohwinkel has eight sets of tracks, which are connected by return switches in order to facilitate the arrangement of the cars.

The railway is about half finished, and part of it is expected to be in operation in a year.

MAX BOUCHSEIN,

BARMEN, *February 1, 1900.* *Consul.*

RAILWAYS OF SPAIN.

Consul Bartleman sends from Malaga, under date of March 18, 1900, the following translation of an article published in the Gaceta de los Caminos de Hierro:

During the past year, the construction of the following railways was commenced:

	Kilometers.	Miles.
Pontevedra to Carril (broad gauge)	32=	19.8
Segorbe to Barracas (broad gauge)	30=	18.6
Sur de España (broad gauge)	1=	0.6
Castro-Urdiales to Taraslaviña (narrow gauge)	43=	26.8
Puertollano to Almodóvar del Campo (narrow gauge)	8=	4.9
Villafria to Monterrubio (narrow gauge)	65=	40.5
Total	179=	111.2

Railways projected.—Villarreal to Bilbao, Gironella to Baga, Valladolid to Tordesillas, Orense to Portugal, Pamplona to Santisteban, Elizondo to Irún, Novelda to Elcke and Crevillente, Lugo to Rivaldo, Lérida to Valle de Aran, and Pontevedra to Rodeiro.

Moreover, concessions for the following suburban electric tramways have been given: San Sebastian to Tolosa, Cadiz to San Fernando, Corunna to Burgos de Santiago, and from Arriondas to Coradonga; also for tramways in the following cities (probably more than will be completed): Barcelona, Valencia, Seville, Saragossa, Corunna, San Sebastian, Cadiz, Oviedo, Almeria, and Carthagena.

LITHOGRAPHIC-STONE TRADE IN GERMANY.

The territory in and around the village of Solnhofen, in the Kingdom of Bavaria, forms the world's chief supply of lithographic stones. The litho stones found in France near Montpellier can not compare with the Solnhofen stones.

Lithographic stone is nothing but a compact and homogeneous limestone, and the villages of Solnhofen, Moernsheim, and Langenaltheim, with a population of about 3,000 inhabitants, lie right in the center of such limestone strata. These cover an area of about 10 acres, of which the greater part has not yet been worked.

The statement which is given out from time to time, mostly from interested parties, that the supply of Solnhofen stones is rapidly

diminishing is therefore absolutely without foundation. These stones will not be exhausted for the next two hundred years at least.

Rumors of newly discovered litho-stone beds in other countries have so far proved to be untrue, or the stones found have turned out to be of little use. Nowadays, I hear, litho stones must be of excellent quality in order to satisfy the requirements of the art. Many stones found at Solnhofen are laid aside as not coming up to the standard. These are sold to builders and are used for paving floors, etc. A scarcity, therefore, of superior lithographic stones, if it should ever arise, would have the effect of bringing into the market inferior stones.

It is interesting to note that the stones here do not lie deep in the ground; in fact, only the earth and some rock have to be removed as a rule. The stones lie in layers and have simply to be taken carefully from the earth.

The bulk of the ground beneath which the litho stones lie belongs to the communities of Solnhofen and Moernsheim, and therefore each Gemeindebürger (homestead owner) of these communities has a share in the ground. From time to time, the aforesaid communities measure out a new stretch of land and divide it into lots, and each Gemeindebürger gets his part. He can either explore the ground himself or sell his claim to one of the larger owners. The ground itself, after it has been deprived of its costly treasure, becomes again the property of the community.

One would suppose that these communities are rich, but the Solnhofeners have never nderstood how to utilize the monopoly which they practically possess. They undersold each other, and the result was that up to about a year ago their profit was modest. In January, 1899, they formed a combination and now get more satisfactory prices.

There are, of course, firms which own some of the ground themselves, the largest one being a share company—the Solnhofener Actien Verein.

The principal quarry owners or quarry explorers are: Fischer & Kluge, at Pappenheim, near Solnhofen; L. M. Heimer, at Hartbruch, near Solnhofen; Joh. Ad. Schindel & Co., Johann & Lud. Stiegler, Friedr. Ottmann, J. & W. Arauner, Friedr. Wilh. Würth, and Daeschler & Gutmann, all of Solnhofen.

The leading dealers in lithographic stones in Bavaria are the Bayrische Lithographicstein Gesellschaft, at Pappenheim; Alphons W. Zehntner, in Munich; and M. Hochgesang, in Munich.

The Solnhofener Actien Verein, the largest landowner, has paid for many years, and still pays, but 3 per cent dividend. The causes of this, I learn, are not only depressed prices, but also the

fact that this company for years found no blue or gray stones on its ground. These blue or gray stones are the most costly ones, as they are harder and better for engraving, and more copies can be obtained from them. Being harder, they stand the polishing on both sides better than the yellow ones, and therefore are chiefly used for exportation to the United States. In fact, the United States takes only these double-faced stones, which can be worked by the printer from both sides. The Germans, on the other hand, are wont to use single-faced stones.

Every stone does not take polish on both sides; a stone may be good on one side, while on the other it is unfit for use, has flaws, splits, etc. Such blemishes are not always apparent on the surface, but may come out when the stone is worked upon by the printer. It requires, therefore, skilled workmen, like the villagers here, who have been in this trade from their childhood, to see that none but good stones leave their hands.

Solnhofen lies very far inland, and therefore the freight rates to all the seaports are high. River transportation is seldom used. The stones are sent by rail to Bremen, Hamburg, Rotterdam, or Antwerp; if destined for the United States, mostly to Bremen.

The freight from Solnhofen, free delivered by the exporter into the railroad car at Solnhofen, to New York via Bremen is 385 marks per 10,000 kilograms ($41.56 per 22,046 pounds).

The entire output of stones is estimated to be $600,000 per year. Of this, the United States takes one-sixth; England, one-fifth; Germany and other countries the rest.

The export of litho stones to the United States for the last ten years has been as follows:

Year.	Value.	Year.	Value.
1890	$102,880.62	1895	$84,836.63
1891	112,414.68	1896	70,693.56
1892	117,236.09	1897	49,820.54
1893	74,647.90	1898	57,520.21
1894	59,459.91	1899	95,896.84

GUSTAVE C. E. WEBER,

NUREMBERG, *January 26, 1900.* *Consul.*

OLEOMARGARINE IN FRANCE.

A recent trial of parties before the civil tribunal of Bordeaux, for having in possession and offering for sale as butter articles composed of other fatty substances, may be of interest to American manufacturers of such products. The defendants were fined 200 francs ($38.60) each, and one was fined 5 francs (96.5 cents) more for having issued bills of sale covering margarin without having specified the true character of the goods sold. The sentences were considered light, this being in the nature of a test case, from which the defendants appealed.

There have been of late several judgments of similar character in different Departments of France. The law on which they are based is three years old, but hitherto there has been little evidence of its enforcement. It seems now that the law officers have received instructions to prosecute for an offense which has been so universal that it has been almost impossible to obtain genuine butter in many markets. What is the cause of the present activity, I am unable to say. It may be because the trade in French butter with England was being affected, or because the importation of oleomargarine is becoming prejudicial to the home market. Whatever the reason, it will be well for American manufacturers exporting to France to label their products very clearly in French, giving on each package the name of manufacturer, place of manufacture, and weight of package, as well as name of product. Nothing must appear on the label which would cause one to infer that the article is, in whole or in part, butter. The term "butterine" or any English word suggesting butter should be avoided.

The terms of this law are very broad, and if the purpose of the Government is to put a stop to the sale of all products not made entirely of milk and cream, the provisions of the statute are such as to secure this result beyond a peradventure. It prohibits not only the sale or offering for sale as butter of all products not wholly composed of milk or cream, but makes every butter maker and butter seller liable for having such product in his possession, however the same may be labeled. If enforced, it will drive such compounds out of all groceries and markets where butter is offered for sale. As a consequence, all dealers in oleomargarine or any similar article, whether wholesalers or retailers, can not have genuine butter on the same or adjoining premises. If they deal in this product, which is not forbidden to be sold as such, it must be as a separate and independent trade. The terms of the law are wide enough to embrace hotel

and restaurant keepers; but whether it will be enforced to that extent is not possible to predict. Strictly construed, it would effectually prevent not only dealers, but users, from having both butter and oleomargarine on their premises at the same time.

I am by no means sure that such absolute prohibition would be detrimental to trade in this product. An establishment keeping only this manufactured article, or a grocery keeping no butter, but selling margarin of a good quality at a price notably lower than butter, which is very dear in this market, might be a success. The question is whether large consumers in hotels, restaurants, and pensions would be willing to proclaim that they furnish no butter to their patrons.

ALBION W. TOURGÉE,

BORDEAUX, *February 7, 1900.* *Consul.*

FISH SCALES IN FRANCE.

Since my report of December 27, 1899,* I have received letters from Canton and Cleveland, Ohio; Saginaw, Mich.; New York, New Orleans, Boston, Detroit, Brooklyn, Baltimore, Tannersville, Chicago; Islip, L. I.; Halifax, Nova Scotia; Paris, France; and Christiania, Norway, relative to the price that would be paid for fish scales. I have only just been able to obtain the information necessary to answer the questions asked, and send it to the Department, as the center whence it will be most likely to reach the parties interested.

The price paid for scales is from 8 to 12 francs ($1.74 to $2.31) per kilogram (2.2046 pounds). The manufacturer says he will buy large quantities. They must be very small and very bright. Those now used are the scales of the bleak or blay, a small fish which is called ablette in French. The samples sent me from New York have been examined and are pronounced "too large and despoiled of their brightness." Other samples are desired.

A specialty is made in the manufacture of these pearls for the extreme Orient, the Indies, and China, to be used as buttons, passementeries, in trimmings, embroidery, and all kinds of jewelry.

JOHN C. COVERT,

LYONS, *March 23, 1900.* *Consul.*

* ADVANCE SHEETS No. 648 (February 7, 1900); CONSULAR REPORTS No. 234 (March, 1900).

PACKING EVAPORATED FRUITS FOR FRANCE.

Last season, a San Francisco commission firm requested my assistance in procuring a market for California prunes. I interested one of the leading importing firms in Nantes in the matter, and within a short time a good-sized order was placed with the San Francisco firm. After waiting for the goods for some months, and about six weeks after they were paid for, they arrived. The goods, I am informed, were good enough, but were packed in boxes which gave a very offensive taste to the prunes, thus creating a bad impression among the trade here. One of the Nantes importers recently received a consignment of California prunes from New York City. He told me he could buy them cheaper in California, but he wished to have them guaranteed by someone with whom he was acquainted; hence the order was given through the New York house. These prunes were nicely packed, but the dealer says he lost about twenty cases in consequence of the boxes having been made from very thin lumber. I measured one of the covers and found the lumber to be less than one-fourth of an inch in thickness.

The quality of the California prunes is superior to the French, and the duty is not excessive, being but 10 francs per 100 kilograms, or less than 1 cent per pound. If the prunes are carefully selected and tastefully packed in substantial boxes, and are always as represented by the samples, there will soon be a much larger demand from this part of France. I was recently shown samples of California apricots, packed in 5-pound boxes. The first layer was composed of large, yellow fruit, while underneath the fruit was not only small and inferior, but it was very irregular in color. The effect of such methods can be imagined. The French people are not easily deceived, and the California fruit dealers who anticipate orders after sending such samples are making serious mistakes.

JOSEPH I. BRITTAIN,

NANTES, *February 8, 1900.* *Consul.*

FRENCH DEMAND FOR HOG INTESTINES.

The people in this part of France are taking an interest in more lines of American goods as the advantages of these are demonstrated. Articles which are sold in this part of France should be shipped direct to Nantes, as the cost of transportation is less and the goods arrive much sooner than if they are sent via England or Germany.

Yesterday, M. Joseph Hennes, of No. 6 rue de Coutances, Nantes, called on me for the purpose of obtaining the name of a reliable pork-packing establishment in the United States, where he can buy intestines to fill with sausage here. He wants to buy goods of a good quality, taken from animals from eight to twelve months old. He does not wish the intestines from old hogs, as they are too large for him to use. The intestines must be small and strong, such as are used in making the small bologna sausage in the United States. The gentleman above named wishes some good house in the United States to send him a sample package weighing from 5 to 10 pounds, and also to state the price per ton. The sample can be sent through the American Express Company.

The French duty on salted intestines of hogs is 13.50 francs per 100 kilograms ($2.60 per 220.46 pounds).

M. Hennes sells large quantities of the above goods, and it will benefit the American trade to send him the sample requested. Correspondence should be in French.

JOSEPH I. BRITTAIN,

NANTES, *February 27, 1900.* *Consul.*

LIEGE SCHOOL OF FIREARMS.

In this city there is established an industrial school, known as the Ecole Professionnelle d'Armurerie, founded in 1896 by the city of Liege, the Government, and the province, where thorough instruction is given in the manufacture of firearms.

The complete course covers a period of three years, and is divided into theoretical and practical. The theoretical covers drawing, lectures on the strength and combination of steel and iron, etc. The practical consists of several departments, such as wood working, engraving, and polishing, each presided over by a competent instructor.

Tuition is free, and besides the pupil is paid 25 centimes (5 cents) per day, and on completing his course receives a sum equal to 25 per cent of the sales of his finished work.

This school opened with 8 pupils and at present has 115 in the different departments, which is its limit. Arrangements are about completed for materially enlarging the buildings during the coming summer to provide accommodations for more than 200.

Pupils from this school have no difficulty, I am informed, in securing positions at good wages for this country, which is from 4 to 6 francs (77 cents to $1.15) per day, while ordinary workmen receive from 2.50 to 4 francs (49 to 77 cents) per day.

The important position occupied by the school will be realized

when it is understood that about 30,000 persons in this city and immediate vicinity are employed in the firearms industry. The object of the institution is to qualify workmen for responsible positions in the different factories, since for the past few years nearly all are employed on piecework, which does not fit men for positions requiring a general knowledge of the business. This put the manufacturers at a great disadvantage, as it was becoming nearly impossible to secure competent foremen and superintendents of departments.

For several centuries, the manufacture of firearms has been the leading industry of Liege and vicinity, and the city maintains an extensive museum of firearms.

It is interesting to note that several thousand of the old flint-lock guns are still manufactured here each year for the trade in the interior of Africa, the natives preferring them to the modern guns.

ALFRED A. WINSLOW,

LIEGE, *March 3, 1900.* *Consul.*

TUBERCULOSIS IN NORWAY.

In November of last year, Dr. Claus Hansen, of Bergen, delivered a lecture before the Storthing, at Christiania, on the causes of tuberculosis and the fight against it. He stated that during the thirty years of his own experience consumption had increased in the Bergen district 80 per cent. In the year 1896, 54.5 per cent of all deaths between 15 and 30 years of age were caused by tuberculosis, and statistics show that about 7,000 of the inhabitants of Norway die every year of this disease. In England, he continued, they have succeeded during the last fifty years in reducing one-half the number of tuberculous cases, and physicians attribute this to the increasing cleanliness in English home life and the erection of consumptive hospitals. The foremost endeavors in fighting tuberculosis should be to agitate for greater cleanliness in general; particularly should efforts be directed against the habit of expectorating.

Statistics of consumptive sanatoriums in Germany show that 66⅓ per cent of the inmates were able to work the first year after the cure, 60 per cent after two years, 45 per cent after three, and 35 per cent after four years. On an average, it is estimated that 50 per cent of the patients in sanatoriums have their ability to work lengthened by one year. The advantages of public sanatoriums for consumptives are so great that the German invalid-insurance companies erect these institutions simply for reasons of economy.

VICTOR E. NELSON,

BERGEN, *February 6, 1900.* *Consul.*

COAL STRIKES AND MINERS' WAGES IN AUSTRIA.

Austria, perhaps, has never witnessed a more determined contest between capital and labor than that which is now going on in the coal districts of her three northern provinces—Bohemia, Moravia, and Silesia—where from 60,000 to 70,000 mine operatives have for the past six weeks been on a strike for a reduction of working hours and an advance of wages, as well as for redress of various minor grievances which will be referred to hereafter. The production of coal has been almost entirely stopped by this strike, and, although there have been so far no tumultuous gatherings nor indications of violence, the situation is nevertheless most serious. The scarcity of fuel is not only paralyzing many important industries and causing great suffering in tens of thousands of families, but the strike actually threatens to completely revolutionize the labor market of the entire Empire.

There was for some time previous to the actual outbreak of hostilities a widespread dissatisfaction among the miners. They objected especially to the length of their shifts, the existing rules regulating contract work, and the condition obliging them to furnish their own light in the pits. They also complained because they were compelled to buy coal for domestic consumption.

The strikers could not have selected a more opportune time for turning their complaints into demands than the present. The coal strikes in England, the increased demand for coal on account of the South African war, the growing industrial development of Austria, and, last but not least, the unusual severity of the present winter—all these were circumstances too favorable to leave room for doubt in the minds of the operatives that the mine owners would accede to their demands.

An Austrian statute, enacted in 1896, provides for the formation of boards of arbitration in cases of strikes, lockouts, and other labor trouble. These boards are composed of an equal number of representatives of employers and employees. They may elect their own presiding officers; but where there is a deadlock, the chairman is appointed by the Government. In this case, however, the final settlement of the difficulties by the board seems as remote as it was a month ago.

At the outset, the mine owners refused to even treat with the men unless they first resumed work. Later, they offered to increase the wages 12 per cent and to negotiate concerning contract work, light,

and free coal; but they positively refused to entertain any proposition having in view a reduction of working hours.

A marked spirit of solidarity prevails among the strikers. All the concessions thus far have been made by the employers, and there is in labor circles a firm belief that the strike will end in a complete victory of the eight-hour movement. The Government, which owns and operates a number of coal mines in Bohemia, has already caused its operatives to be informed that with the beginning of the year 1901 the uniform duration of a shift in any of its mines will be only eight hours. The other mine owners, however, have so far refused to make a similar concession. At present, of all the persons employed at the Government's collieries, 47.7 per cent work ten hours per day, 22.4 per cent work eight hours, 11.4 per cent work twelve hours, 9.5 per cent work nine hours, and 9 per cent work eleven hours; average, 9.76 hours.

The average daily wages at these mines last year were 3.8 crowns (77 cents) per employee (women and children included) and 5.10 crown ($1.02) per miner, which is an advance of more than 50 per cent over the wages paid twenty years ago, as the following table shows:

Year.	Number of working-days.	Average daily output of coal per employee.	Average daily earnings.			
			All employees, including women and youths.		Adult miners.	
		Tons.	*Crowns.*		*Crowns.*	
1880		1.6	2.48	$0.50	3.24	$0.65
1885		1.79	3.02	.61	4.14	.84
1890		2.15	3.26	.66	4.40	.89
1895	295.75	2.59	3.58	.73	4.58	.93
1898	288.8	2.51	2.76	.76	4.90	1.00
1899	293.6	2.33	3.80	.77	5.02	1.02

The wages given in the above table may be considered a fair average of those paid throughout the Bohemian, Moravian, and Silesian mining districts during the period stated.

The output of coal in the various districts affected by the strike was 28,000,000 tons in 1899, or more than two-thirds of the entire production of the Austro-Hungarian Monarchy. The industries are suffering severely for want of coal. In some places the public schools have been closed on account of lack of fuel. At the beginning of the present month, it was estimated that all the stocks of coal in Vienna taken together did not exceed 70,000 tons, while the daily consumption of that city is about 6,000 tons. In Bohemia, the price of coal has appreciated from 400 to 500 per cent, selling

often at from 40 to 50 crowns ($10 to $12) within a stone's throw of a coal mine.

A painful apprehension is being felt in all classes of society that, if the pending contest is not soon terminated, matters may reach a climax the consequences of which can not be foreseen.

FREDK. W. HOSSFELD,

TRIESTE, *March 1, 1900.* *Consul.*

AMERICAN COAL IN EUROPE.

The Bureau of Foreign Commerce has received a letter from Messrs. J. Gompel & Co., Schiedamschedijk No. 150, Rotterdam, to the effect that they desire to enter into business relations with American coal exporters, but not knowing their names they send copies of a circular, with the request that it be distributed among important coal dealers in the United States. This method is adopted in order not to lose time in correspondence.

The circular reads:

DEAR SIR: As now is the time for American coal merchants to extend the export of their product to European ports, prices on this side having advanced in such a way that it can be advantageously imported into the Mediterranean, Black Sea, Baltic, etc., we shall be pleased to be informed if you are open for export trade.

If this is the case, we beg to offer you our services as agents, being fully up in the coal trade and well introduced at above-named ports. If you feel inclined to avail yourself of our services, please send us by next mail detailed descriptions of qualities of your coal, names of collieries, statement of purposes for which it is used, quantities you might be able to export to Europe, with competitive prices and conditions of sale.

Please send us at the same time your conditions for our acting as your agents, as a loss of time will undoubtedly cause a loss of advantage.

Awaiting the favor of your earliest reply, we remain, etc.,

J. GOMPEL & CO.

Not wishing to discriminate between coal companies, the Bureau of Foreign Commerce takes this method of bringing the matter to the notice of those interested. It would also call attention to the fact that a number of reports have been received from United States representatives abroad in regard to the scarcity of coal in foreign markets.*

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*See ADVANCE SHEETS Nos. 347, 404, 537, 600, 627, 649, 651, 654, 658, 661, 674, 683, 684, 690.

MORE DEMANDS FOR AMERICAN COAL.

In continuation of my several communications on the subject of American coal in Europe,* I have now to report that I have received a number of inquiries from various European cities on this subject.

A. Bluhm, 56 Galernaja, St. Petersburg, writes as follows:

I have for years been selling English and Scotch coal, and hearing now that the United States is shipping considerable quantities of coal to France and Italy, and finding your name mentioned by a journal in connection with the matter, I beg that you will name to me some of the most respectable of your shippers, to whom I may apply for the purpose of introducing American coal into this country. In doing so, you would no doubt further the interests of your country, as we have here an annual importation of about 2,000,000 tons.

Fr. Buzzi d'J, of Trieste, Austria, and M. Bachelar, of La Rochelle, France, write for addresses, and another correspondent—Steiner & Wallesz, of 1 Graben 16, Vienna—says:

We have learned from certain newspaper articles that you are of the opinion that American bituminous coal and anthracite can be profitably imported into Europe. In the latter event, we believe we could place considerable quantities in Austria and Hungary via Trieste and Fiume or via Hamburg, and would therefore be very grateful to you if you could furnish us with data. We especially desire information on the following points:

(1) Which grade of coal do you consider the best? What is the heating power of same (expressed in "calorics")?

(2) What are the prices "f. o. b. steamer" in any American port?

(3) What are freight rates from an American port to Trieste, Fiume, or Hamburg?

(4) With what companies should we correspond in order to secure the very best qualities?

I have replied to these communications to the best of my ability, and I forward the addresses to the Department in order that the American trade may take up the subject properly.

Correspondence with Messrs. Bluhm and Buzzi d'J may be in English; with Steiner & Wallesz, in German.

The inroads of the American product upon this market have had a tendency to beat down Cardiff prices somewhat, but as yet no substantial reduction has been made.

ROBERT P. SKINNER,

MARSEILLES, *March 12, 1900.* *Consul.*

* See ADVANCE SHEETS No. 648 (February 7, 1900) and No. 661 (February 23, 1900).

Under date of March 19, 1900, Mr. Skinner writes to a Chicago correspondent:*

The following has been communicated to me by a high authority:

The principal difficulty in laying down American coal here is in obtaining tonnage for the transport. Many papers have contained accounts of large transactions in American coal, but so far, although we understand that some coal has been fixed for the northern ports of France, there has been only one contract made for delivery at Marseilles. This, we believe, is for 45,000 tons of New River coal, the purchasers being the Paris, Lyons, and Mediterranean Railway Company. The business was done about three months ago, and we understand the conditions were 28s. ($6.80) per ton c. i. f. Marseilles. landed weight, with a guaranty of 20 to 23 per cent of volatile matter, 4 to 5 per cent ash, with a right of refusal if ash exceeded 6 per cent, the coal not to contain more than 30 per cent of small as tried on a screen of 30 millimeters at an angle of 45°, 600 tons a day delivery, payment at thirty days' date from the end of month of delivery at Marseilles.

While the market is for the moment very favorable, it is not to be expected that present prices will long continue, and it remains to be seen whether we can overcome the disadvantage of having to transport our product across the ocean. My own opinion is that if American capital will take hold of this matter in a large way, provide cargo boats of considerable size, and eliminate middlemen as far as possible, the difficulties threatening permanent success may be overcome.

AMERICAN COAL IN JAPAN.

Consul Lyon transmits from Hiogo, February 16, 1900, a clipping from the Kobé Daily News entitled "American coal for Japan," showing that Virginia coal is being introduced into that country. The extract reads:

The arrival in Nagasaki of the British steamer *Needles* with a cargo of American coal marks a new era in the coal trade of this country.

The vessel is from Norfolk, Va., and brings over 6,000 tons of Pocahontas coal, consigned to the China and Japan Trading Company, the sole agents for Japan.

The coal is largely used by the United States Navy, and has been regularly shipped to the Philippines. It is stated to be equal to Cardiff coal, and was sent to England in considerable quantities during the strike.

This is the first consignment of this description of coal to reach Japan.

The *Needles* left Norfolk, Va., on the 22d of November last, but was unfortunately delayed at Algiers by an accident to one of her derricks. She arrived at Nagasaki on the 8th instant.

* To whom the letter has been sent.

AMERICAN GINSENG IN CHINA.

The demand for a market for American ginseng in China continues. I am in receipt by every mail of letters from all parts of the United States asking for market quotations of ginseng and for the names of buyers here. In my previous report on ginseng, dated January 7, 1898,* I said in brief that it would be absolutely necessary for buyers here to see the stuff before purchasing, as the purchaser will not take the word of another as to quality or condition; that Chinese buy their ginseng after carefully sorting it themselves, and would no more think of purchasing at a distance than we would buy a horse with our eyes blindfolded. I further suggested that if American exporters cared to send a shipment of ginseng to my care, I would personally see that it was submitted to the Chinese buyers, and obtain an opinion from them as to the possibility of finding a profitable market on this coast. One American dealer in ginseng (a resident of Pennsylvania) alone took advantage of my offer. On July 8, 1899, he shipped to my care a box of American ginseng containing 18½ pounds, of which he says:

> I saved some of my last year's crop especially to send you. I am sending three grades. The market in New York last year went 90 cents higher than ever before, and has opened this year $1.75 higher than ever before. I think that the price will reach $7 per pound. * * * The question comes up many times in this country as to what use is made of our ginseng in China, and I should like very much to be informed.

The last question was answered in my previous report.

The sample box of ginseng arrived, and it was found that no care had been taken in the packing, and no attention was paid to the directions clearly laid down in my previous report. The three grades were more or less mixed and broken, and, worse still, were somewhat damp. All this could have been easily guarded against by careful packing. As the sender was in no hurry for its sale, I concluded to hold it, to note the effect of the dry season upon it, and also to give different Chinese buyers a chance to look it over thoroughly. The lot proved far too small in bulk and too mixed in grades to dispose of as a whole or to thoroughly test the fluctuating market. The box contained a few excellent pieces, some medium, much small, some strings, and a fair proportion of broken pieces known as dust. The lot therefore required picking over and sorting into grades before the Chinese would bid for it. Even the largest shipments of ginseng are sold only after thorough inspection and

*ADVANCE SHEETS No. 53 (March 5, 1898); CONSULAR REPORTS No. 211 (April, 1898).

sorting. This is one of the rules of the trade, to which there seems to be no exception. This practice, I may add, has become general, in consequence, the Chinese say, of the failure of American and Japanese exporters to maintain the standard of their shipments. They declare that their second and subsequent shipments are never equal to their first, so that any ginseng that might be shipped would have to be sorted. There is a very large business done here in ginseng, all of which is in the hands of the Chinese. This being a free port and without a custom-house, no reliable record is obtainable of the quantity imported, and the Chinese never keep statistics. There is an endless variety of ginseng used, but for convenience it may be broadly classified as follows:

Yung Sum.—First quality from or or near Pekin.

Korea Yung Sum.—Second quality from Korea.

Far Kee Yung Sum.—Third quality from America.

It is estimated that last year about 3,000 piculs (400,000 pounds) of the first quality was imported, about 500 to 600 piculs (66,666 to 80,000 pounds) of the second, and some 3,000 piculs of the third. The Pekin ginseng is pinkish in appearance, very hard and smooth, and is free from roots and small pieces. The second is rather opaque and otherwise resembles the first.

My correspondent's lot embraces values all the way from $12 to $40 Mexican per catty (1 catty=1⅓ pounds), while the dust will not bring over $2 Mexican a pound. These prices are quite satisfactory, considering his statement regarding New York quotations. There is no reason why there should not be a large and growing market for American ginseng, and I would like to see it thoroughly exploited. This can be done only by sending a trial shipment of, say, 2,000 pounds of selected pieces, the large pieces, of course, being the best. Instead of shipping to this consulate in the future, I would recommend that all merchants correspond direct with Mr. A. O'D. Gourdin, of Hongkong, who is personally known to me and who would give the matter his careful attention. There are no Chinese firms here with whom it would be possible for the American exporter to deal direct. The American ginseng that comes to this market is for the most part purchased by Chinese firms located in New York and shipped hither at a great profit to themselves, so that it would be very much to the advantage of the American exporter to deal direct with a responsible agent here. I trust that this report will be read in connection with my previous one, for I believe that if the exporter will follow out the directions contained in both, there will be little difficulty in disposing on this coast of all the ginseng that is grown in America.

ROUNSEVELLE WILDMAN,
Consul-General.

HONGKONG, *January 7, 1900.*

AGRICULTURAL IMPLEMENTS IN CHINA.

I am in receipt of a communication from leading manufacturers of agricultural implements in Illinois, requesting me to send a list of dealers in agricultural implements in Chinkiang, with a view to the introduction of these articles into this portion of China. There being no such dealers in Chinkiang—the agricultural conditions not warranting such—I request the Department to publish my reply to the Illinois people in CONSULAR REPORTS, and thus, perhaps, save our manufacturers of agricultural machines and implements a good deal of useless expense and labor.

Farming is not carried on in a large way here. Farms ranging from half an acre to 5 acres constitute the large and small holdings; it is clear they do not require reapers, mowers, thrashing machines, or steam plows. The Chinese dead seem to have preemption rights over all the hills and hillsides, leaving only the plains and valleys to the living—even these are encroached upon by the coffins of past generations.

The people build dikes of mud, inclosing, say, half an acre each, often making them from 3 to 6 feet high, to receive and retain the spring rains. Into the water they go—men, women, and children—and work until their little farm is planted in rice. Most of their time after the spring rains are over is spent in treading the carrier pumps or bringing water and pouring it on the rice plants until the harvest time comes. I have no doubt hoes, rakes, shovels, and cheap hand rice hullers would find a market here, for the American implements are as far ahead of what they use as a diamond is superior to a sandstone.

The localities where wheat or barley is raised have farms about the same size. The plow is a light affair made of a crooked stick, with a steel point fastened to it, and is pulled by a water buffalo, a kind of half breed between Texan cattle and the western buffalo. Because he loves to wallow in the water, with his nose, eyes, and ears above that element, he is called water buffalo. When he is used for plowing, they attach a rope to the machine and slip a loop around his neck; being powerful and the plowing being shallow, he pulls the plow with the rope on only one side. They plant wheat just as we would plant corn; they do not sow it. As it begins to show above ground, they gather up all the human excrement they can, mix it with water, and scatter it over the growing grain or vegetables to force their growth.

When harvest time comes, men and women take a blade, inserted

in a short handle at an angle of about 45°, and proceed to cut the grain, bind it carefully, and carry it to the thrashing floor near their buildings. This floor is a hard, beaten spot of ground about 20 feet in diameter. The water buffalo, muzzled and attached to a stone roller, tramps and rolls the grain out of the ear. After the thrashing is done, they throw wheat and chaff in the air and allow the wind to blow the chaff away. When the wheat is thus winnowed, they gather it up, put it into bags, and pound what they need for use in a stone mortar.

I think scythes, small hand thrashers, fanning mills, and some cheap apparatus for grinding would find a large market here in time.

WM. MARTIN,

CHINKIANG, *February 10, 1900.* *Consul.*

RAILWAYS IN NORTH CHINA.

The following, dated Pekin, February 26, 1900, has been received from Minister Conger:

The Tientsin-Shanhaikuan-Niuchwang branch of the Chinese Imperial Railway is now completed and will soon be opened to general traffic. The distance from Tientsin to Niuchwang is 348.63 English miles. The line from Tientsin to Chinchow, 268.63 English miles, over which trains have been running for some months, is said to pay 14 per cent on the whole capital invested. It is expected that when the entire line is open, the road will pay a return of 30 per cent.

The Chinese Eastern Railway (Russian), which is now completed from Port Arthur as far north as Moukden, connects with Niuchwang at Ta-shi-chiao, thence to Port Arthur—distance, 180 miles. Owing to the danger of running trains in China during the night, the time between Port Arthur and Pekin will be about three days.

The Russians are working with feverish activity to finish the road from Moukden to Vladivostock, and it is thought that Russia's two great strategic points in the Far East—Port Arthur and Vladivostock—where she is said to have garrisons variously estimated at from 120,000 to 200,000 men, will be connected by rail not later than August of this year.

Trains are now running over the Siberian Railway as far east as Stretensk, on the River Shilka, a tributary of the Amur, from which place the river route must be used to arrive at Khabarovsk, whence the Uszuri section of the railway runs to Vladivostock, thus completing for the present the great enterprise begun in 1891 and establishing uninterrupted steam communication between western Europe, St. Petersburg, and the extreme eastern limits of the Russian Empire on the Pacific coast.

At present, the schedule running time is: St. Petersburg to Lake Baikal, nine days; Lake Baikal to Stretensk, three days; by river to Khabarovsk, six days; and to Vladivostock, one day; total, nineteen days.

The section of line between Stretensk and Vladivostock is now partly completed, and it is expected that the whole line will be open in about eighteen months.

CHINESE VS. AMERICAN COTTON GOODS.

Consul-General Goodnow writes from Shanghai, January 27, 1900, in regard to statements that he has seen in United States newspapers relative to the magnitude of oriental competition in the cotton-manufacturing trade. The articles refer to a cotton mill at Hankau, in which, it is alleged, only Chinese labor is employed at wages averaging $1.75 per month. The mill has 34,000 spindles and 700 looms and makes good yarn. Other mills, it is said, are located in Shanghai. The real facts about cotton manufactures in China, says Mr. Goodnow, are these:

The mill in Hankau has discontinued weaving cloth, as it could not meet the competition of foreign piece goods. The looms are being taken out and are being replaced by spindles. In Shanghai there are 750 looms running. It is claimed that these are now (but only very recently) making a coarse sheeting at a profit.

The cost of making this sheeting is fully as much as the manufacture of the same grade of cloth costs in America. Instead of wages averaging $1.75 per month, the cheapest coolie laborer receives $6 Mexican ($3 gold) per month; carders and spinners receive $25 to $30 Mexican ($12 to $15 gold) per month; engineers and weavers receive $20 to $60 Mexican ($10 to $30 gold) per month. Wages have risen very fast in the treaty ports, with the building of mills and the establishment of the foreign businesses, and are maintained at the higher level.

The labor, however, is less effective than the American labor. The American weavers accomplish two to three times, and American spinners at least four times, the results attained by corresponding Chinese workmen in the same time.

Two of the mills in Shanghai are now run entirely by Chinese, two have a foreign supervising engineer, and five have foreigners for the managers and heads of departments and supervisory places.

The yarn manufactured at this point and at Hankau goes to the province of Szechuan, and is there made into cloth on handlooms in the villages and houses of the consumers. Only the coarse grades

of cotton yarn are made, and the higher price of raw Chinese cotton, as the demand has increased, together with the competition of Indian and Japanese yarn, has caused these mills to run at a loss up to the present time.

The cotton cloths dominating the market in northern China and now challenging trade in central China are from America.

We can control this market, adds Mr. Goodnow, so long as we have an equal entrance into all China, especially as freight lines from our country are multiplied; and when the Nicaragua Canal is built, no other than American cotton goods need apply in China.

RAW-COTTON PROSPECTS IN JAPAN.

I have recently interviewed a member of the Mitsui Busaan Kaisha, the largest importers of raw cotton into Japan, with a view to obtain the opinion of the company concerning the outlook in this country for American cotton, and his remarks are given below:

There are 300,000 bales of American cotton and 500,000 bales of Indian cotton used every year in Japan. Of all cotton employed by the mills, American cotton forms 20 to 30 per cent and Indian cotton 50 to 60 per cent; but there is a tendency to increase the importation of the American cotton at the expense of the other. It is difficult to say even approximately what the percentages will be next year, as the demand is greatly influenced by the fluctuation of rate; but with the present quotation, it will be something like this: American cotton, 60 per cent; Indian, 30 per cent; miscellaneous, 10 per cent.

About 13,000 bales in a month could be imported from the Pacific coast, viz, San Francisco, San Diego, Tacoma, and Seattle. But as the steamers generally give space to the cargoes for China, the shipment of cotton is limited. Consequently, the average amount in a month from these ports is about 8,000 bales.

Freight has at present risen to 50s. ($12.15) per ton, but it will come down to 37s. ($8.99) per ton when the quick-dispatch boats are no longer in demand. As to the rates on cotton imported from America via the Pacific coast, there is an agreement between railroad and steamship companies covering all freight from the time the goods are delivered to the railroads at the place of production to the port of destination. The particulars are unknown to the importers, but the through freight is 1.35 cents per pound, of which from $7 to $8 per ton will be paid to the steamers.

According to the record of last year, the shortage on the cotton from the Pacific coast was small—about 1 per cent.

In answer to the question, Do high prices of Indian cotton increase the demand for American cotton and in what degree, my informant said:

If all the mills work full time, even if they suffer some loss in consequence of high price of cotton and bad market for their produce, the demand for cotton will not decrease. On the other hand, if Indian cotton becomes dearer than American, all the mills will use the latter and its importation will increase, to the exclusion of the former.

SAMUEL S. LYON,
Consul.

HIOGO, *February 1, 1900.*

COMMERCE OF HAWAII IN 1899.

Consul-General Haywood transmits from Honolulu, March 5, 1900, copy of the report of the collector-general of customs for the year ended December 31, 1899, from which the following figures are taken:

Trade by articles.

IMPORTS.

Articles.	Compared with 1898.		
	Value.	Increase.	Decrease.
Ale, beer, cider, and porter	$149,629	$31,309	
Animals and birds	234,170	108,871	
Building materials	547,177	228,852	
Clothing, boots, and hats	639,828	164,714	
Coal and coke	343,286		$265,431
Crockery, glassware, lamps, etc	100,528	30,930	
Drugs, surgical instruments, and dental material	118,696	28,950	
Dry goods:			
Cottons	480,046	32,573	
Linens	43,518		7,164
Silks	63,071	14,868	
Woolens	106,640		41,389
Mixtures	45,654	15,149	
Fancy goods	186,781	39,373	
Fertilizer, bone meal, etc	957,361	648,945	
Fish, dry and salt	120,374	23,704	
Flour	263,272		10,108
Fruits, fresh	35,721	13,504	
Grain and feed	586,860	144,929	
Groceries and provisions	1,284,680	507,858	
Guns, gun materials, and powder	48,272	20,738	
Hardware, agricultural implements, and tools	940,577	449,017	
House furnishings	235,518	79,177	
Iron, steel, etc	289,187	187,042	
Jewelry, plate, and clocks	60,424	25,498	
Leather	60,604	21,812	
Lumber	630,898	294,368	
Machinery	2,089,278	1,230,148	
Matches	32,055	9,230	
Musical instruments	45,952	13,571	
Naval stores	140,625	66,364	
Oils (cocoanut, kerosene, etc.)	196,881	68,753	
Paints, paint oil, and turpentine	97,942	46,134	
Perfumery and toilet articles	36,889	9,318	
Railroad material (rails, cars, etc.)	282,326	100,654	
Saddlery, carriages, and material	220,314	75,886	
Sheathing metal	19,129	14,508	
Shooks, bags, and containers	405,933	112,734	
Spirits	102,338	25,457	
Stationery and books	164,984	50,955	
Tea	49,894		3,265
Tin, tinware, and materials	21,353	5,304	
Tobacco, cigars, etc	335,361	71,884	
Wines, light	183,863	61,565	
Sundry personal and household effects	76,671	18,884	
Sundry merchandise, not included in above	479,500	174,150	

Trade by articles—Continued.

EXPORTS.

Articles.	Compared with 1898.		
	Value.	Increase.	Decrease.
Sugar	$21,898,190	$5,283,568	
Rice	42,562		$106,716
Coffee	132,347	16,402	
Bananas	84,268	17,687	
Wool	26,678	26,413	
Hides	95,073		19,873
Pineapples	10,781	2,111	
Goatskins	2,563		1,187
Deerskins	534		
Sheepskins	4,849	2,491	
Tallow	1,259		6,690
Molasses	358		560
Betel leaves	505		6
Taro flour	252	229	
Plants and seeds	3,919	998	
Sundry fruits	493	21	
Awa	900	490	
Bones and horns	421		1,931
Curios	195		676
Canned pines	3,848		1,967
Honey	9,948	6,635	
Specie	157,658	19,238	
Hide trimmings	185	145	
Beeswax	1,200	1,200	
Pelts	10	10	
Vegetables	412	412	
Glue stock	39	39	
Sundries	3,066	73	
Foreign goods	146,219	43,436	
Total	22,628,741	5,421,606	139,609

Trade by countries.

Country.	Imports.	Exports.
United States	$15,020,830	$22,517,758
Great Britain	1,774,655	
Germany	384,102	
China	384,522	54,053
Japan	673,410	
Australia and New Zealand	257,388	39,863
Canada	113,480	17,067
Isles of the Pacific	1,035	
France	64,133	
Other countries	386,050	
Total	19,059,605	22,628,741

A report from Mr. Sewall, United States special agent at Honolulu, incloses a clipping from a local paper, which says, in part:

During the month of December, 1899, the largest amount of imports ever recorded for one month in Honolulu was received.

Sixteen foreign steamers and 48 sailing vessels arrived in port with cargoes. This does not include the large number of United States transports that entered the harbor bringing stock and quartermaster's supplies.

There were 40 general cargos, amounting to a total of 45,000 tons; 11 cargoes of coal, the total being 22,850 tons; and 13 vessels brought in lumber with a total of 9,198,520 feet.

The acquisition of these islands by the United States has given an impetus to Honolulu that has attracted the commercial interest of the world. The carrying and shipping to this port has grown with such rapidity that the increase of trade in December, 1899, compared with December of a year ago, is something phenomenal.

In evidence of the prosperity of the port, a walk along the water front will show every available dock and berth occupied by vessels unloading cargoes of every description, and a large number anchored in the stream compelled to wait for days before being able to discharge, on account of the small accommodations.

The revenue from import duties in 1899, adds Mr. Sewall, was $400,000 in excess of that of 1898.

AUSTRALIAN COAL IN HAWAII.

Consul Goding sends from Newcastle, under date of February 3, 1900, a statement supplied by the Hawaiian consul at that port, showing the amounts of coal shipped to Honolulu for the years 1892 to 1899 and during the month of January, 1900, as follows:

Return of coal shipped from Newcastle to Hawaiian ports in the years named.

Year.	Quantity.	Increase.	Decrease.
	Tons.	*Tons.*	*Tons.*
1892	35,843		
1893	34,183		1,660
1894	47,337	13,145	
1895	44,409		2,928
1896	48,164	3,755	
1897	43,275		4,889
1898	64,776	21,501	
1899	100,041	35,265	
Total	418,028	73,666	9,477

The shipments for January, 1900, were 23,058 tons, valued at £8,662 14s. ($42,162).

COTTON GOODS IN NEW SOUTH WALES.

An able business man of Sydney said to me recently:

Some of the largest buyers in the Australian colonies complain that American manufacturers of dry goods are losing good orders by advancing prices on their goods for the export markets. While the English and Canadian manufacturers have raised prices from 15 to 20 per cent, the Americans have raised them 25 to 30 per cent.

A few years ago there were no complaints of this natúre, as no one thought seriously of trying to introduce American dry goods—by which cotton goods is meant—into Australia, so these grumblings mean that we are now being considered in connection with the textile trade.

Our people have been overlooking the importance of the Australian market for this commodity. It should be remembered that the 4,500,000 Australians are among the wealthiest people on the globe; that winter, as we know it, never puts in an appearance, it being almost eternal sunshine here. Cottons are worn all the year round by a majority of the people; lawns, muslins, and such light fabrics are more extensively and universally used than by any other people of the European races; and in no market must taste and fashion be more studied.

I have been making inquiry regarding the cotton-goods trade in this country, and I am convinced that we should be in the market; but to succeed here, there are a few facts we must recognize. We produce fully nine-tenths of the world's supply of raw cotton; we have the most perfect cotton-manufacturing machinery and the most efficient labor on the globe, yet the value of our exports of raw cotton is over eight times that of our exports of manufactured cotton.

Trade in foreign countries must be carefully and systematically catered for. It is necessary to patiently build up a reputation, not only for the goods offered in the market, but for the business integrity and uniform reliability of the sellers. Custom can not be had for the asking. The agent must display his goods, he must show their merits, he must furnish what his customer wants, he must meet the prices of all competitors, and then he must stay until he convinces the trade that he is ready to fulfill the requirements of every emergency.

Many of our people have not learned this. They run their factories for the market at their doors. This market gets a little dull and the goods pile up, and off flies some active broker to foreign lands to unload the surplus. He finds an opening, he advertises,

works day and night, and by the most vigorous enterprise he gains a foothold. His goods commend themselves, his principles seem just and generous, and success comes within measurable distance. Then times in the United States change, prices grow reassuring, and the foreign market is forgotten. It is no short or easy task to build up a foreign trade, but it can be lost during a single "boom" in the exporting country. Our customers abroad, having been disappointed, lose confidence in us, our competitors have secured the market, and we, to recover this trade, have to begin the race anew, with an additional handicap.

The people of other countries nurse their foreign trade, even at a temporary sacrifice. They never let go their hold until actually beaten in the markets. They make terms suitable to the conditions of business in the importing country. They pack goods as required by the local customs, and they try to furnish articles adapted to the tastes and fashions of the people. They fill their orders abroad, even if they have to cut down for a time their home traffic.

In this colony, considering population, we have an enormous trade—almost as much as all other non-British countries combined. In six years we increased this trade not far from 200 per cent. In structural iron and steel—also pig and bar—we were just getting a hold, when better times in the United States came, and Australia was neglected.

As the gross losses by merchants who sell goods in this country, or "bad debts," amount to a lower per cent than in any other, so far as I am able to learn, and as there need be no losses if business is done on business principles, our people should be able to give buyers the same terms as are offered by competitors.

I have taken some pains to learn the grievances of the dealers in cottons.

Leading drapers, who like our goods, or the middlemen who furnish them, complain that our people do not seem to realize that the buyer must be consulted. They say Americans are unwilling to deviate from their customs, which are unsuited to the demands of this trade, even when small concessions might be beneficial.

One point against Americans—besides fluctuating prices—is the difference in the methods of presenting samples. Our competitors, having on hand constantly large stocks of white material, called by the British "calicoes," select their designs, print a few hundred yards, and arrange samples for the trade. In "casing" these samples, they use great economy. Having determined on their season's work, they take from each design one piece large enough to show the whole figure, and a sample of some 2 by 3 inches, showing all the different colors used. These are fastened together on a card with

name of color and price. The buyer has a free hand in selecting. He may take as many or as few—not less than ten pieces, however—of any color or design he thinks suited to his trade. The orders are filled as he may choose, as the printing is done to fill the orders, and not before the orders are made. When the order is filled, a buyer may order further from any color or design on his list. He may have one color substituted for another. This is convenient for a distant market, as it gives the purchaser the fullest opportunities to furnish what his experience teaches him the trade demands.

Our people follow a different method. The "soft-goods" agent of a firm of almost world-wide reputation brings me a few cases of American samples. They are beautiful goods in lawns, muslins, percales, and other light fabrics, suitable for this land of almost eternal summer and sunshine. They are handsomely and expensively put up. Each sample is some 7 by 9 inches in size and is carefully pasted on a large, white card, with the name of mill, color, etc., on each case.

One case was made up of three colors and designs, to wit, twenty pieces of pink, fifteen of light blue, five of heliotrope. A buyer liked the goods and would have taken them had he been permitted to change the order to ten pieces of the pink and fifteen each of the blue and the heliotrope. This could not be done with an American house, so the business went to another country.

Our competitors not only adapt their printing to the wants of the buyers, but they even vary the width of goods to suit a new and exacting market.

Our success in other lines in Australia is largely due to the readiness of manufacturers to make goods suitable to the trade, as judged by those on the ground, and if our cotton-goods dealers will follow the example, they may soon have a splendid traffic in this country.

The system of discount, too, seems to be most confusing. To illustrate: The terms offered by one of our exporters was a given price, with 30, 10 and 10, and 2½ and 4 per cent discount. It seems to many practical men who are striving to increase American trade abroad that this useless and confusing custom of discounts should be abandoned for a plain statement of price and terms.

It is not improbable that our cotton-goods manufacturers regard the trade in this country as unworthy of their attention, but if they will remember that the 1,250,000 people of New South Wales alone annually import $8,000,000 worth of "drapery," and that the importations of the 4,500,000 Australians about equal the total exportation of the United States in cotton manufactures, they may see the wisdom of catering to this market.

Our people may not yet be ready to export cotton goods in great

quantities; but, as we are now sending cutlery to Sheffield, pig iron to Birmingham, silks to France, and watch cases to Switzerland, it may be time to inquire about our chances in the world's markets with a finished product the raw material for which we produce so abundantly.

GEO. W. BELL,
Consul.

SYDNEY, *January 29, 1900.*

STEEL-RAIL CONTRACT IN NEW SOUTH WALES.

Consul Goding sends from Newcastle, February 26, 1900, clipping from the Sydney Telegraph of February 19, showing why American bidders failed to obtain a recent contract for rails in the colony. Had the firms mentioned, says Mr. Goding, offered the same terms that were given by the English, this immense order would have been supplied by our manufacturers. The article reads:

In response to the invitation of the works department, tenders have been received from English and American firms for 19,000 tons of steel rails, fish plates, bolts, and nuts. Two offers were obtained from the United States and several from Great Britain. After allowing for shipping charges, etc., the lowest tenderer was an Illinois company at £151,417 10s. ($736,873); the next was the Barrow Company, of Great Britain, at £152,727 10s. ($743,245), also allowing for shipping charges. In connection with the Illinois company, however, there were certain stipulations about exchange which would mean extra expense, and a condition that the government of New South Wales should have a banker's credit, which would mean paying a commission to some American firm. These conditions would bring the tender of the Illinois company to somewhere about that of the lowest English tenderer. The members of the tender board agreed with the minister in giving the contract to the Barrow Company, of Great Britain, and the under secretary in his minute on the matter states: "I am quite sure that when the exchange and expenses were paid in connection with the Illinois company's tender, it would cost more than the Barrow Company's offer."

RUBBER IN THE STRAITS SETTLEMENTS.

I send herewith copy of an article recently published in the Straits Times.

During the past quarter, rubber to the amount of $47,249.86 gold was shipped to the United States from Singapore. Knowing something of the climate, soil, and moisture in the southern part of the States of Georgia, Alabama, Mississippi, Louisiana, and Texas, I can not but believe that the rubber tree will grow there and be a profitable crop. The writer of the article says "a 300-acre farm will cost in the first ten years $75,000 (Mexican) and return about 10 per cent on the original outlay."

R. A. MOSELEY, Jr.,
Consul-General.

SINGAPORE, *January 19, 1900.*

INDIA-RUBBER CULTIVATION.

Malaya is the peculiar home and habitat of the gutta-percha tree, but of late the cultivation of the india-rubber tree has been recommended, and in parts even taken up by our planters. We need not go into the chemistry of the composition of the two substances, gutta and caoutchouc, but we may observe that the former trees are of slow growth and can not be tapped in the same way as rubber trees, owing to their having closed sacs, and not communicating tubes, containing the latex, and hence have to be almost destroyed or cut down to get at the commercial sap. Their natural order in botany, too, is different from those trees which yield caoutchouc.

Caoutchouc, or the true india rubber, is found in a number of orders, as the *Moraceæ*, *Apocynaceæ*, and *Euphorbiaceæ*. Some of these grow into magnificent trees, and others are mere climbers and vines. All these have the latex-holding tubes in the inner bark, some communicating with one another more freely than others, and some yielding more than others. Of those, however, which have hitherto mostly entered into commerce, or which have hitherto yielded the most caoutchouc, only four varieties may be noted: the *Castilloa*, or Panama rubber; the Para rubber, or *Hevea brasiliensis;* the Ceara rubber, or *Manihot glaziovié;* and the Assam rubber, or *Ficus elastica.*

Of these four, the two last may be neglected by us, as the Ceara rubber tree does not seem to thrive in Ceylon, nor produce much; and the other, or Assam rubber, though it thrives, gives only a small yield. At the same time, it ought to be mentioned for both that a machine lately invented by Mr. Biffen, of Cambridge University, so does away with the labor and processes needful to separate and consolidate the rubber from the latex as to obviate the defect of small yield to a considerable degree; and it ought to be mentioned, for Assam rubber, that it is—possibly only in shallow soils—a great surface feeder, with roots running in all directions for great distances half above ground, and that all these roots, like some African varieties, yield the rubber. And for this reason, as well as that the tree thrives here, and we believe has already been begun to be cultivated, we may append two notes regarding it that may prove useful for planters. The first is that in congenial leaf mold, shaded forest soil in which there is a superabundance of moisture, any branch or twig simply cut down and thrown about will take root. The other is that the seeds, which should be fresh, should be sown in sheltered boxes or pots during the wet weather, the soil being composed of one part of half and quarter inch brick pieces, one part of half-inch charcoal, and one part leaf mold with a little dry cow dung well ground; this last for top dressing. The watering should be carefully managed, otherwise the seeds and seedlings are rooted out and washed away. Hence the necessity of keeping them under shelter from heavy rains. The boxes and pots should receive some light, and should never be allowed to get quite dry. From these nurseries the plants should be potted out singly when sufficiently high.

There remain, thus, only two varieties, the *Castilloa*, or Panama rubber, and the *Hevea brasiliensis*, or Para rubber, to which we may confine our remarks. And here it may be observed that only till within three or four months back the latter, or Para rubber, was supposed, from its furnishing more and purer caoutchouc, to be the best to plant; whereas now, owing to Mr. Biffen's invention and the very much larger yield of latex—ten times as much in Ceylon—as well as fewer and more simple incisions being necessary—thus immensely reducing cost and labor—the former, or *Castilloa* (Panama rubber), has come to be more thoroughly recommended for planters. Hence it is that most of our planters who directed their attention to this rubber cultivation have gone in for the Para rubber. These will

now see that it is the *Castilloa*, or Panama rubber, which should be cultivated by them. In fact, in regard to this cultivation, which tree, which mode—as annual crops of seedling plants and twigs or as trees—and with machine and other inventions revolutionizing past ideas, all are in such an unfixed, at the same time progressive, state that one object of this paper is to set this fact before our planters, not only to enable them to be on the qui vive, but to adopt due caution and act calmly and not hastily.

Of late years, there has been a great increase in the demand for rubber, prices have gone up, and the subject has gathered round it quite a literature of its own. Indeed, there is even a journal devoted to it, called the India Rubber World. Chemistry and mechanical invention, too, as in similar products, have come in to aid in the manufacture, as we may term it, of the caoutchouc from the sap or latex, cheapening the production of the article and taking up varieties of plants that were unprofitable before, or otherwise aiding in its production from twigs, etc. Indeed, it may or may not be known that Singapore itself at the present moment has a manufactory for expressing the juice or latex from leaves and twigs, which—whether it be caoutchouc or "viscin," to be further dealt with by chemists in Europe—is exported to Germany.

The india rubber can only be recommended as yet as a minor or by-product of a plantation. The chemical quest that is proceeding may usher in a new era of extracting the rubber from annual crops, instead of having to wait eight to ten years for a tree to be sufficiently grown to be tapped. Experiments are now being carried on in London and Trinidad to secure rubber from year-old plants of the *Castilloa elastica*. (We may note here that this is not the same as *Castilloa markhamiana*, which seems to be the kind in Ceylon.) To quote from an article in the India Rubber World:

"It has been found that the seed sown broadcast over a prepared field will yield an abundant crop of young trees, which, at about a year old, can be cut and sent to a factory, where, with ordinary machinery, 8 per cent of fine rubber can be extracted from the young shoots. * * * This young-tree crop, at present prices, would return an estimated profit of $200 to $400 per acre."

This extraction of the rubber from young shoots has been done in the chemical laboratory, and it only remains to apply it to the chemical production of rubber on a large scale. Besides the *Castilloa elastica*, there are also a number of other varieties that may be named as yielding latex from leaves and twigs, such as the *Alstonia macrophylla*, which grows in Ceylon, and the *Alstonia plumosa* of Fiji. It has to be observed, too, that the rubber trees vary in their produce, just as most other plants, with change of habitat. These things will have to be observed and noted with respect to the peninsula, and hence, as well as for a variety of other strong reasons, it is to be regretted there is no proper agricultural department or royal experimental gardens in a select locality in the federated states.

Altogether, therefore, we may be sure that the cultivation of the rubber tree will enter on new phases in the near future. Root tapping of some varieties may be more largely utilized; there may be annual young crops, the preparation of rubber from leaves and twigs, and the utilization by chemistry of a number of at present neglected plants—all these are not only possible, but probable. It may also be observed that in the matter of rubber, as in that of coffee, Brazil may be said to be the principal determining factor. The annual output of rubber all over the world, which is all consumed, is put down at over 100,000,000 pounds, and of this nearly half comes from Brazil, while most of the rest also comes from Central America. Lagos, in Africa, has lately taken a lead in the supply, while the great interior forests of the Dark Continent, which have not yet been brought into the market, are also known to contain rubber trees of varieties.

We may now proceed to our notes on the Panama and the Para rubbers—*Castilloa elastica* and *Hevea brasiliensis*.

By Mr. Biffen's invention of the machine to which we have already referred, the *Castilloa*—from its greater outflow of milk, even if containing less rubber, and the fewer incisions and consequently less labor that it requires—has become more valuable than the *Hevea brasiliensis*, or Para rubber tree. According to experiments carried out in Ceylon, the outflow of latex from an incision from the *Castilloa* is about ten times as great. The amount of rubber, too, collected from a quarter of the number of incisions, and these of the simple oblique shape and not the double V shape of the *Hevea*, is larger than in Para trees of similar age. There are two kinds of *Castilloa:* the one we name here, and the other the *markhamiana;* and it is stated that the latter is grown in Ceylon, and that it is not so good for produce as the *elastica*. This point is receiving attention, and should be watched by planters, as it is useless to put down an inferior variety. At the same time, it must be remembered that all kinds of plants and trees diverge in new situations. In describing the cultivation—soil and climate, nursery, planting, etc.—the *Castilloa* need not be separated from the *Hevea*, as, with the exception of some very minor points regarding them, and that only after they have grown, the treatment is identical. Hence, our following remarks apply to both. Where there may be a difference it will be mentioned.

CULTIVATION.

Climate and soil.—The climate should be warm, steamy, and not dry. The temperature may range from 70° upwards, the *Hevea* bearing the greater heat and suffering more from cold. Uniformity of temperature is best for all. A deep, rich, warm alluvial soil is suited for both; not sandy, but rich with vegetable and leaf mold. The *Hevea* prefers—while the *Castilloa* suffers in—swampy land that may be occasionally subject to gentle floods, and thrives in great shade and dense, moist jungles. The *Castilloa* should have good drainage at the roots, and the most promising localities for it are at the foot of hills, they being sheltered places near streams, and with good drainage—just similar to what is required for the orange at a higher level. Both trees have surface-feeding roots extending to great distances where the soil is shallow; and in the view of roots being also tapped for milk, this may prove an advantage. For seeds and young plants, heavy rains and floods should be avoided. Till the plants are fairly grown into trees, they suffer from high winds, which should be provided against in selecting and clearing the site.

Nursery growth.—The seed should be sown either as soon as obtained, or, if imported, put in soil in Wardian cases and allowed to grow on the way, as it rapidly loses its germinating power. The nursery beds, or boxes preferably, should be sheltered from rain and hot sun and kept continually moist, the seeds being put in an inch deep and 8 to 10 inches apart and tightly covered over with well-pulverized dry cow dung or vegetable mold. If sown close, the plants may be potted out singly after a few weeks; if not sown close, the plants may be planted out when 2 feet high, in holes dug for the purpose and filled with good loamy soil, as well as cow-dung manure. After planting out, they should be shaded for the first two or three years, and also secured against high winds. Narrow belts of trees left while clearing will provide both the required shade and the wind screens. The plants may be set from 8 to 12 feet apart, some preferring the lesser distance and others the greater, both having their own advantages in denser shade, keeping down weeds, surface root growth, etc. Weeding will be required for the first year or two. No crops should be grown between the trees, as it would injure the rapidly growing and extending roots near and along the surface. The young plants should only be removed for planting out in rainy weather,

and should be carefully protected for a year or two from being eaten up by animals, either domestic or wild. Plants may not only be propagated from seed, but also from cuttings, and this very easily. The methods for *Castilloa* and *Hevea* are thus described in official Ceylon circulars:

For *Castilloa:* "Cuttings from lateral branches do not grow well, and have a tendency to grow more or less horizontally, so that main shoots must be used. When cut back, the main stem produces buds from the axil of the leaves, and these may in turn be used as cuttings, and so on. Cuttings should be at least 3 inches long, with a basal portion of old wood, and perhaps 12 inches are better, as described for the case of Para rubber."

For *Hevea:* "Take cuttings near the ends of the branches, but farther back than any of the leaves. Each cutting is about a foot long and as thick as a lead pencil, and is cut off at both ends by oblique cuts made just below leaf scars. The cuttings are planted in nurseries of wet earth."

Indeed, as we have found, these cuttings may be made anyhow. In appropriate soil, shade, and weather, they grow like weeds; if merely thrown in without these favoring conditions, not one may strike root.

Tapping, etc.—The growth of the rubber tree is very rapid, and yet, as a certain size is necessary before tapping can be begun, several years must elapse before the plantation is fit to yield its produce. In our opinion, the trees should be at least eight years old—a year or two more the better. As the milk of the *Castilloa* flows much more freely than that of the *Hevea*, and as the results of experiments warrant, the incisions of the former should be simple, single oblique cuts, and of the latter V shaped, these to be more numerous and nearer each other than the former. A wedge-shaped chisel three-sixteenths to one-fourth of an inch in thickness at a distance of half an inch from the cutting edge, and breadth (of chisel) 1½ inches, is recommended for the operation, with a wooden mallet. The area to be tapped reaches from the roots to not more than 10 feet from the ground, and the incisions should be performed on one side of a tree each year, leaving half for recuperation, and avoiding possible ringing. Vessels at the incisions should collect the flow of the milk. The milk ducts lie in the inner bark, and hence the cuts must just reach this, and not penetrate the wood. To proportion the blow of the mallet to the depth of cut required requires considerable practice and a steady hand. In the vessels for the *Hevea*, a little ammoniated water should be put to prevent the too rapid coagulation of the milk. The tappings should be twice in the year—from January to April and in August and September—that is, in the dryer months; and early morning (after a spell of wet weather) is the best time to make the incisions. In "milking" a tree, the effect of "wound reaction" is to be noted as greatly increasing the flow of the latex, old wounds seeming to have a decided action upon the new. New wounds may be made near the old, or the old wound may be renewed with a knife at intervals of from two days to a week. The result of experiments is that the flow then increases to more than double the previous flow. It has always to be remembered that moisture in the soil is necessary to a copious flow.

The manufacture of the milk into marketable rubber is extremely simple, but it is distinct from the cultivation and treatment of the tree. The cost on a plantation of 300 acres in Ceylon up to the end of the tenth year, with interest, has been reckoned up at $75,000, and the return at, say, about 10 per cent on the original outlay. For this, as well as for the other reasons that have already been mentioned in the course of these papers, the india rubber is recommended only as a minor or by-product on plantations. If annual seedling crops prove useful, as the experiments in progress will show, it may be made highly profitable.

THE FAMINE IN INDIA.

The people of India are now face to face with a famine of water, food, and cattle, which in the particular areas affected is unprecedented in character and intensity.

The number of people in receipt of relief has already swollen to quite abnormal proportions, considering that the season of acute distress has hardly commenced. The returns far exceed those recorded during the initial stage of the famine three years ago.

At this period of the famine of 1896–97, only 1,000,000 persons were receiving government relief in all India; to-day, the official estimate places the number at 3,500,000, and the daily expenditure at about $84,000.

The southwest monsoons (upon which the animal and vegetable life of India substantially depend), laden with the moisture of the Indian Ocean and the Arabian Sea, break in June upon the Malabar coast and for three months flood India with a rainfall averaging about 100 inches. The rains of the last monsoon proved from a half to a total failure, and famine was then threatened to a large portion of the country. It was still hoped that the autumnal crops of southern India might be saved by a good northeast monsoon in November, and in central and upper India by early abundant winter rains. The normal time for winter rains has now passed by. On the east coast the usual rains in November and December, which are termed the northeast monsoons, but in reality attend the withdrawal of the monsoon current from the Bay of Bengal, failed to a very large extent. Elsewhere throughout India, abnormally high day temperatures were unaccompanied by the usual dews at night, while the cold weather has been extraordinarily rainless, in so much that only during the last few days have there been any signs of the winter showers. These conditions have still further injured the autumn crops and diminished the prospects of a spring harvest, thereby greatly enlarging the affected area and intensifying the distress.

The rice crop of Burma and Bengal has fully realized expectations and constitutes a great reserve of food for the rest of India. The Northwestern Provinces and Oudh have successfully sown their winter crops, which have been greatly benefited by rain in the past week. In Madras and Mysore, the abrupt disappearance of the monsoon was a great disappointment. The harvest will be indifferent over large areas, but, except in a few places, no distress requiring relief is anticipated here. In the irrigated or inundated tracts of Sind and the southwest Punjab, the crops will be somewhat short, owing to the contracted area of inundation by the Indus and its

tributaries, due to diminished volume of water in the canals, but the shortness will be comparatively small. These tracts will, as in former years, yield food in excess of local requirements and will profit from the misfortunes of their neighbors.

The famine district embraces the greater part of Bombay presidency, most of the Nyzam's dominions of Hyderabad, the western half of the Central Provinces, the western states of central India, the entire part of Rajputana, the southeast Punjab, and a large portion of the native states of Cutch and Gujarat. The true famine area in British India and the native states will thus be about 300,000 square miles, with a population of 40,000,000. There is a further area of about 145,000 square miles, with a population of 21,000,000, in which more or less scarcity and distress prevail, where relief is already being given in a tentative form, or will probably have to be given before the advent of the next monsoon. Thus, the area and population affected by the drought is larger both in British territory and the native states than was anticipated in October last. As a whole, the autumn harvest of 1899 was the worst on record for many years, while the present spring harvest on unirrigated land occupies little more than half the area sown in either of the last two years.

The liberality of the local and general government of India is most marked, but there is a limit even to state charity. Nothing seems to stem the flow of the people to the relief works, and the number in receipt of state aid advanced another 250,000 during the week, bringing the total up to the appalling figure of 3,500,000. The most trying period of the famine is still two months ahead, and even now it is questionable whether the financial resources of the government and the power to provide useful employment for such vast numbers will be equal to the strain, if present standards are to be maintained.

Agricultural prospects are growing gloomy, and the water famine increases in intensity. Lord Curzon, the viceroy of India, in an address to the imperial legislative council on the 19th instant, called attention to another feature of the present distress. During the famine years of 1896–97, the whole external world seemed to share India's sorrow and contributed to alleviate its distress. The attention of England was then turned upon suffering India, and hundreds of thousands of pounds were contributed by generous hearts. Now, the thoughts of almost every Englishman throughout the Empire are fixed upon the war in South Africa. It would be too much to expect that England can again come to the rescue as splendidly as she did in 1897, and it seems clear that India must fight the plague and famine with her own means.

WILLIAM T. FEE,

BOMBAY, *January 29, 1900.* *Consul.*

MINING IN SIBERIA.

This consulate is in receipt of a number of letters by each American mail, from all parts of the United States, inclosing newspaper articles which say that a Russian engineer has recently made a report to his Government, stating that the same gold belt which has proved so rich at Cape Nome, Alaska, extends across the Bering Sea into Siberia, and that there are enormously rich quartz lodes in gold mines all over Russia, which are easy to work at a great profit, are owned by the Government, and will be sold to the highest bidder. It is also stated that the Emperor has issued an ukase permitting Americans to prospect for gold on the west coast of Siberia, and that preference is given to American miners and capital to explore the mineral wealth.

These letters inquire as to the truth of these statements, for copies of Russian mining laws, and permits to prospect for gold in Russia, as numerous parties are organizing to take immediate advantage of this opportunity.

I called on N. A. Denissoff, the director of the mining department, yesterday, stated the substance of the articles, and he replied that, although the Government was taking steps to ascertain the conditions on the west coast of Siberia, the Emperor had not issued an ukase on that subject, nor was it probable that he would do so. He said that petitions might be made to the Emperor for permission to prospect for minerals in any part of Russia, which should be accompanied by recommendations as to the character of the applicant, his experience as a mining engineer, capital to be employed, etc., and it would be considered; but the best-informed people here do not believe permits could be obtained to prospect for gold on the west coast of Siberia until after the Russian Government has fully investigated its conditions. Were it ready to consider such applications, the probabilities are that it would require from two to three years before the same would be finally decided. Russian officials place no value on time, and it requires from two to twelve weeks to receive an answer to an official communication from the various departments, according to the work involved in the reply.

The value of Russian gold mines has been greatly exaggerated. Several experienced American mining engineers, who are admitted to be the best in the world, have visited Siberia in the interests of English as well as American capitalists during the past three years and made extensive examinations of the conditions, and I have not heard of a single company being organized as a result of their reports. The mining is almost all placer, there being but two small

quartz mines in the Ural Mountains, which are owned by French capitalists and are said to be losing money.

There is very little foreign capital in Siberia. No advantages are offered to or discriminations made in favor of Americans engaging in any kind of business in Russia.

W. R. HOLLOWAY,
Consul-General.

ST. PETERSBURG, *February 13, 1900.*

BEE RAISING IN PALESTINE.

In ancient times, Palestine was famous for its honey, and it has always been produced here, but until recently the methods employed have been crude. The credit for developing this industry by the introduction of improved modern appliances is due to a family named Baldensperger, which came from Switzerland in 1849 and settled at Artas, a small village about 7 miles south of Jerusalem and near the famous pools of Solomon. The father had always been interested in bee raising and began to keep some bees in native hives—that is, long terra-cotta jars. What he actually accomplished in this line was of little account, except to awaken in his five sons an interest in this business, which, thanks to their enthusiasm and perseverance, has become a success.

The Baldensperger boys needed instruction, but books were dear and communication with Europe infrequent; and it was not till the year 1880 that a real start was effected. Their principal teacher was Mr. Frank Benton, of the United States, who furnished them with an apiary. In 1883, they adopted the plan of transporting their bees from one locality to another. From the region of Ramleh they carried them to Yafa, a distance of 12 miles, to give them the benefit of the orange blossoms there. Women carried the hives on their heads all the way, each woman carrying one hive. They had a rich harvest of orange-blossom honey during the month of April, and in other places two crops from cactus and acacia blossoms, respectively. They also started another apiary and secured from other localities crops of honey from lemon blossoms and from wild thyme. The next year, also, they had good crops of honey, the 50 hives at Yafa alone yielding 6,000 pounds in less than one month.

It was not long before this industry began to attract the attention of the Government, and at first a tax of a little less than 10 cents a hive was imposed; but this was very soon increased by an ingenious device whereby the officials not only counted the actual hives, but every door, window, and hole in which they could see any bees moving was reckoned as a "hive," with the result that 150 hives were counted as 2,000. The matter had to be carried to court and was

not settled till after two years of litigation, when the Baldenspergers were found in debt to the Government to the amount of about $500. This decision affected one large apiary only.

It was in 1889 that this judgment was rendered, and, as the Baldenspergers refused to pay, this apiary was sold at auction in Jerusalem for about $1.25 per hive. The difficult part of the work was to deliver the goods to the purchaser, which the officials were bound to do. The purchaser, the officials, and a large number of camels and camel drivers went to the place where the apiary stood, expecting to take it away; but, as the bottom boards of the hives happened to be unhooked, the bees, when the hives were touched, swarmed out and everybody had to retreat.

A compromise was effected, one-half the amount demanded being paid; and the bees remained in the hands of their original owners.

The bee raisers had to contend with enemies which at times nearly ruined their industry. Large, yellow hornets came in such numbers that they prevented the bees from working and destroyed multitudes of them. Sparrows, swallows, and bee eaters (*Merops apiaster*) also did a great deal of mischief. Badgers during one winter destroyed 15 hives. Rats are very troublesome; they do not eat the honey, but destroy the bees. Two kinds of lizards do much harm. There is also a destructive moth, called "death-head moth," which appears in autumn and enters the hives to eat honey, but does not harm the bees. One of these moths will take a teaspoonful of honey at a time. A strong colony of bees will sting the intruders to death. The greatest enemy is man. Wherever an apiary is set down, the sheiks of the nearest villages have to receive a certain amount of honey, otherwise the bees will be stolen. When a hive is stolen, fire, and sometimes water, is used to destroy the bees. About one-tenth of all the honey produced must be given away to prevent people from taking the hives.

Furthermore, when the bees are being carried from one place to another on camels, the Bedouins, or wild Arabs, occasionally steal the camels. If to this list is added the taxation, it will be seen that the industry of raising bees in Palestine is beset with many and serious obstacles, and requires patience, tact, and perseverance.

There is always one queen in each hive—never more, except in cases where the "old mother" has become too old and the bees clip her wings; in that case she and her daughter remain in one hive. It is said that she does not live long under these circumstances, and soon dies of jealousy. A queen is good for about three years, when she is replaced by a young one, raised in a small box specially prepared for the purpose. When shipping queens, the Baldenspergers always use Benton's cages and good food, a mixture of honey and

sugar, which makes water unnecessary. A queen lays about 3,000 eggs in twenty-four hours, and a very large proportion of young bees are "workers." A "strong colony" has from 30,000 to 50,000 bees. There are about 3,000 drones in each hive. In distributing the bees about the country, care has to be taken not to overstock any given locality with hives, otherwise the bees can not do so well.

In 1884 a man named Howard, from America, who was in this country, bought 200 queens of the Baldenspergers, which he took with him to the United States. He arrived at his home with only 12 queens alive, which he sold for $15 each. Nearly all the queens were drowned in the sugar which he fed to them.

When it seemed probable that this industry, so far as the Baldenspergers were concerned, would be ruined by excessive taxation, they sold a large number of hives, some to natives who had been their servants and had learned the business from them, and some to a small colony of Jews in Wady Hanein (on the Plain of Sharon, south of Ramleh), so that there are now about 700 hives at work besides those belonging to the Baldenspergers.

A good market is found for all the honey made. It is sent to Germany, Switzerland, England, and, a very little, to France. This year (1899) the market has been unusually good, because the yellow hornet has been so destructive to the native bees.

The export duty is 1 per cent.

The average yield per hive is about 100 pounds of honey. The working months are April, May, June, and July. After October nothing is taken from the bees. They are then allowed all the honey they have—25 or 30 pounds per hive—to live upon. In January, the keepers begin to feed them some stimulating food.

Natives all over the country raise honey after their crude methods, as they always have done; but they neither produce nor sell much, and since they can not remove the honey without destroying the bees, their business is not profitable. The "extractors" which the Baldenspergers use contribute largely to their success.

There is no doubt that this industry might be greatly increased.

The Baldenspergers take an American paper—Gleanings in Bee Culture—and have purchased extractors, veils, uncapping knives, and other implements in the United States.

I am indebted to Mr. C. H. Baldensperger for the principal facts given in this report.

SELAH MERRILL,

JERUSALEM, *January 25, 1900.* *Consul.*

AMERICAN PORK IN TURKEY.

According to a report from Consul-General Dickinson, of Constantinople, dated March 27, 1900, the admission of pork products from the United States into Turkey is prohibited by an order of the Porte. This order, it seems, was made about seventeen years ago, and, in spite of strenuous efforts on the part of the consul-general and of Minister Straus for several months past, the order has not yet been repealed. Mr. Dickinson adds:

In the last six months, I have secured the admission of several consignments of American hams, bacon, and other pork products at this port; but during this period American hams have been refused admission at Smyrna and Beirut, and one consignment spoiled at Smyrna while the question was being discussed at the Porte.

In view of the facts, I consider it unsafe to ship American pork products directly to Turkey until the order referred to is repealed. It is understood that a very large part of the hams, bacon, etc., received in this country is American, but that they are first shipped to Hamburg, Liverpool, and other European cities and then resold to dealers in this country.

On April 5, Mr. Dickinson writes that the Porte has given notice in effect that the order prohibiting the importation of American pork will not be repealed, but will hereafter be strictly enforced.

WELL-DRILLING MACHINES AND PUMPS IN SYRIA.

Some further information on this subject may not be amiss in connection with the extracts from my letters already published in ADVANCE SHEETS OF CONSULAR REPORTS Nos. 629 (January 16, 1900) and 642 (January 31, 1900).*

H. Sabbag & Fils, in their report given below, suggest that an expert be sent out here from the United States to canvass the field and assist in opening up the market. They say, "We would even consent to support part of this expense," expecting to act as general agents for this kind of business here. This plan seems to me highly commendable and should, in my opinion, be speedily adopted.

Dr. Ira Harris, United States consular agent at Tripoli, writes to this office:

As to the prospects for introducing modern American well-drilling machinery, pumps, and windmills into this country, I have thought for a long time that they are

* Both reports also appear in CONSULAR REPORTS No. 234 (March, 1900).

good. The Syrians are quick to see a point when it is made, but very slow to make one themselves. They want someone to take all the risk, and if it is a profitable thing they will invest. In northern Syria, there are thousands of acres of as good land as there is in the world suffering for lack of water, and all that is needed is someone to make the start. One good artesian well would set this country wild on the question of irrigation by the use of modern machinery. It would pay some of our American well-drilling-machinery makers to come here and show what they can do in this line.

United States Consular Agent Schumacher, a civil engineer, writes me from Haifa:

I laid the contents of your letters before our leading merchants and landowners and found a willing ear everywhere and decided interest in the introduction of windmills and drilling machines; but none of them wishes to risk the first order, and all unanimously expressed a desire to see one of the mills working, promising to order several if they turned out satisfactorily. As I have no doubt that the American wind engines will answer the purpose, I strongly recommend the sending of a sample mill to Haifa, which I would erect at Kefr Etta, one of Sursock's farms (Mr. Sursock is a Beirut capitalist); and I think I could guarantee orders for half a dozen, provided the sample works easily and supplies sufficient water for irrigation purposes. Mr. Amin Effendi Abdouldour, Sursock's partner and agent, will shortly go to Beirut and inspect the insane-asylum windmill. He is reliable, capable, and enterprising, and if we succeed in getting Mr. Sursock to order an outfit, we have won the market in this district, which is well worth exploiting by our manufacturers.

H. Sabbag & Fils, of Beirut, who have ordered a well-drilling outfit from the United States and expect this machine as well as a complete irrigation windmill here during the present month, write me as follows:

As regards the introduction into this country of American windmills, we beg to state that we have written about this matter to our correspondents in the interior and along the coast and have received the following answers:

Our Yafa correspondent says that everywhere in the neighborhood there are wells from which they draw their water for irrigation through turnstiles operated by horses, and that windmills would be welcomed. The only objection is the lack of constant winds, and, as the lands in the hot season can not stand without water, there remains the fear of the plantations being damaged by drought in case the winds cease for a few days. Of course, they have the privilege of building reservoirs, but the cost of the windmills and the reservoirs would fall rather heavily on ordinary poor farmers. Our correspondent adds that the German colony at Yafa has introduced pumps operated by petroleum engines, which apparently meet with favor; as many orders have been given for this kind of machine.

Our Baalbek, Homs, and Hamath correspondents, without entering into details, say that the proposed innovation would be a blessing for the country; and they urge us to send a sample mill, which will attract numerous orders.

The Hauran plains would be a splendid field for well-boring machinery and windmills, and it is hoped the Government will protect such operations from predatory tribes.

We have spoken about windmills to the agents of the Jewish Colonization Association, who control vast pieces of lands in Palestine, and expect soon to receive a favorable answer.

In all these places, however, the nature of the lands, the depth at which water might be found in the different places, etc., must be studied. For this reason, we suggest that a special technical expert be sent from the United States. The cost would not be heavy and would be recovered from orders secured. We would even consent to support part of the expense, in case this business is taken up energetically.

As for Beirut, it is certain that water is much needed and is found at a small depth. The prospective establishment of a sample windmill in the city and the introduction of a well-boring machine will induce those who have no water to try again, and those who use the water bought at a high price from the Beirut Water Works Company will employ windmills to save money on the water needed for domestic, industrial, and irrigation purposes.

I believe with the gentlemen above quoted that Syria, Palestine, and adjoining semiarid territories present a very promising market for our irrigation machinery. Western Asia is about to be developed and exploited. A concession for a railway through Asia Minor and Mesopotamia to the Persian Gulf was recently secured by a German syndicate.* Similar enterprises farther north and east are expected to be undertaken by Russians. Where the field is so extensive and the people so unfamiliar with modern devices, it behooves our manufacturers to make special efforts.

G. BIE RAVNDAL,
Consul.

BEIRUT, *March 2, 1900.*

WANTED: DIRECT STEAMSHIP SERVICE WITH SYRIA AND EGYPT.

The efforts of Consul-General Dickinson have resulted in supplying Constantinople, Smyrna, and the Grecian and Black Sea ports with direct monthly steamship communication with New York, and no student of levantine trade movements can have failed to notice the wonderful stimulus thus given to the commerce between said ports and the United States.

Alexandria, Beirut, and Alexandretta, however, do not have this service. Each of these ports had perhaps one or two direct steamers from the United States during 1899. Exports to and from the United States are increasing, and it is only a question of time when Egypt and Syria will be connected with the United States by direct merchant steamers calling here regularly once every six or eight weeks at least. It is of the highest importance that these boats should fly the Stars and Stripes, as the flag is a powerful commercial missionary, creates trade, and inspires confidence; but, while awaiting this achievement, foreign steamers will be welcomed. For the time being, we will be satisfied with any regular direct service.

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*See ADVANCE SHEETS No. 665 (February 28, 1900).

United States Consular Agent Hewatt has kindly furnished the following statement, showing the weight and value of declared exports from the consular district of Alexandria, Egypt, to the United States during the year ended June 30, 1899:

Articles.	Quantity.	Value.
Cotton.....bales...	52,404	$3,742,082.15
Sugar.....bags...	642,742	3,528,462.27
Rags.....bales...	7,843	57,734.71
Onions.....bags...	17,991	16,246.87
Cigarette paper.....cases...	14	1,539.17
Tobacco.....bales...	10	576.44
Dry provisions.....	.....	324.69
Carpets and rugs.....number...	21	180.34
Straw baskets.....bales...	5	47.15
Grindstones.....case...	1	14.85
Total.....	.....	7,347,208.64

A bale weighs 750 pounds gross; a bag, 224 pounds gross; a bale of rags, about 650 pounds. Freight per ton of 40 cubic feet from Alexandria to Liverpool is 10s. 6d. ($2.55); to New York, 19s. ($4.63).

In the above table of exports, goods invoiced at Cairo are not included.

Mr. Hewatt says:

All the articles mentioned were shipped with transshipment in some British port, generally Liverpool. Sugar was sent direct in special steamers. This season (1899–1900) the shipments of cotton are much greater than before. As to imports, it is impossible to speak definitely, as so much is transshipped in England for this place. About three months ago, a large steamer came here direct from New York. She discharged 3,000 tons of cargo, chiefly maize, railway supplies, locomotives, machinery, etc., after which she proceeded to Constantinople to discharge the rest.

As to the importance of the Egyptian market to the American exporter, Consul-General Harrison's report printed in CONSULAR REPORTS No. 217 (October, 1898) gives a great deal of valuable information. The Cairo to Cape Railway is steadily progressing southward, and every new day witnesses the further expansion of an inviting field for exploitation.

From the Beirut district were exported last year to the United States goods valued at $370,000, chiefly wool, rugs, Damascus inlaid woodwork, cotton lace, and soap. These figures are collected from invoice books. Actually, much more is being sent; numerous shipments being made in broken lots, without certified invoices. Direct steamers would probably bring about a change in the method of transporting the Syrian raw silk to the United States. Some 800,000

pounds of this product now finds its way annually to the American market, via Lyons, France.

The question of imports from the United States to these regions was treated in my report to the Department dated January 15, 1900.* During the present year, we expect considerable quantities of American flour, irrigating machinery, petroleum, and coal; besides less bulky articles, such as cotton goods, hardware, beer, provisions, etc. These calculations are not based on improved transportation facilities. If such were assured, progress along the lines indicated would be certain.

Last year, the American College at Beirut imported from the United States some 700 tons of building material and supplies. Two new buildings will be erected this year, which means additional importations from home.

A direct steamship line which could handle steerage passengers would have annually more than 5,000 Syrian emigrants to the United States from Beirut and Tripoli. They now emigrate via Marseilles and Havre, in French bottoms.

United States Consul W. R. Davis courteously submits the following statistics as to the exports to the United States from the Alexandretta district in 1899: Licorice root, 33,039 bales (5,248 tons), valued at $197,113; miscellaneous, $3,184.

Up to January 25, 1900, there were invoiced at Alexandretta 3,520 tons of licorice root for the United States, valued at $137,963, and camel hair, embroideries, walnuts, kid skins, etc., to the amount of $19,646.

From Aleppo (same district) were exported to the United States during the same period: Wool, 1,702 bales, valued at $85,029; sundry goods, $7,576.

The consul writes:

> Since I have been here, I have given some thought to the trade between Syria and the United States and can most heartily second your statements in CONSULAR REPORTS. It is almost useless for us to urge the further introduction of American goods until we have a direct line of vessels and cheaper rates of transit. To the invoice expenses of the goods we must add one-third more as freight. This brings the cost too high to successfully compete with the cheap French and German goods that are sold in this country.

The Barber Steamship Company, of New York, which has already entered the eastern Mediterranean waters, is nearest to take up the question herein discussed. But this does not, of course, exclude other steamship lines from considering the proposition. If a full outgoing cargo can not be had for Alexandria and the Syrian coast at once—*i. e.*, for the first few trips—some combination plan might

*See ADVANCE SHEETS No. 675 (March 12, 1900).

be profitably adopted by which a part of the cargo could be unloaded at some other Mediterranean port. Homeward-bound cargoes can be supplied on short notice.

Give us, then, regular direct steamers. A direct steamship service is, for the purpose of building up trade, almost useless unless it is at the same time regular. The intervals between calls in this instance may be four or six or even eight weeks; but regularity is absolutely essential for the business men interested on both sides of the water, if new fields are to be opened up and steady development insured.

G. BIE RAVNDAL,
Consul.

BEIRUT, *February 1, 1900.*

DIRECT STEAMSHIP COMMUNICATION WITH MOROCCO.

Consul-General Gummeré, of Tangier, on February 21, 1900, transmits a letter from Messrs. Borgeaud, Reutemann & Co., merchants and shipping agents of Tangier, who are anxious for direct communications between New York and Tangier. It appears that the Anchor Line Steamship Company has informed this firm that if a sufficient quantity of freight can be assured, it will open direct transportation to Tangier. This, Mr. Gummeré thinks, promises good results for American trade.

The letter reads:

TANGIER, *February 17, 1900.*

Hon. S. R. GUMMERÉ,
United States Consul-General, Tangier.

SIR: As we have for a number of years imported American products, especially petroleum, lard, cotton-seed oil, Virginia tobacco, and flour, which we are now compelled to receive via Belgium, Germany, England, or Gibraltar, we have a very great interest in establishing a direct steamship connection between New York and Tangier.

Petroleum is imported here via Gibraltar in boxes containing 2 tins, each of 16 liters (4 gallons) capacity. We have also recently introduced American petroleum from Antwerp in steel barrels of 200 liters (52.8 gallons) each; but, for general consumption, boxes are preferred. The entire consumption of petroleum for Tangier alone is from 1,000 to 1,200 boxes per month.

The present consumption of lard is only 100 to 120 buckets of 28 pounds net per month, but, as the European population is increasing, the market for this article will grow in proportion. It is not used by the natives.

Cotton-seed oil is at present imported via Hamburg and Liverpool; also in small quantities via Genoa. The consumption depends upon the harvest of olive oil in the country, and amounts to 50 or 100 barrels per month.

Virginia tobacco is a minor article and its consumption is limited at present to 2,000 or 3,000 kilograms (4,409 or 6,614 pounds) per month.

Flour comes from the United States, in small quantities, via Gibraltar.

The quantities indicated are only for the Tangier market; but as we are agents of a steamship line touching all the Morocco ports from Tangier to Mogador, it would not be difficult for us to direct and greatly increase the import of American goods into other Morocco ports.

We have the honor to beg you to acquaint the United States Bureau of Foreign Commerce with these facts, and hope that some American or other steamship company (as, for instance, the Anchor Line, with ships sailing between New York and the Mediterranean) may be able to take this matter into consideration and make arrangements for a monthly connection between New York and Tangier.

The expenses for steamships in this port are very small, never more than $15.

We beg, etc.,

BORGEAUD, REUTEMANN & CO.

STREET RAILWAYS IN SOUTH AFRICA.*

The street railways of Cape Town have a track mileage of 25 miles; the employees number 300 men, and 15 single-deck motor cars, 32 double-deck, and 8 trailer cars are in use. The lines run to the suburbs and are to be extended to the docks. The cars are all made in America; the single-deckers have large platforms in front and rear, with roomy seats for the accommodation of smokers. "Trailers" (open cars), with seats running crosswise, are attached to the double-deckers morning and evening to accommodate the increased traffic. All the cars, except the trailers, have a middle aisle, with seats on each side holding two persons. The upholstering of the seats is in cane and is always neat, and the color of the cars (yellow) is kept bright and fresh. As the English people are kind to the blacks, no distinction is made on the cars. New cars have been lately ordered from the United States to serve the increasing population caused by the exodus of the refugees from the Transvaal and the large numbers of soldiers in the city, who, at half price, are good patrons when off duty or riding to and from the various camps. As most of the merchants, clerks, and government officials live out of the city proper, the tram lines are well patronized. No passes or free tickets are furnished.

Outside of the Philippines, I can not hear of a city that has a larger proportion of Malays than this one. They are a pleasure-loving people, and Saturdays and Sundays are devoted to pleasure, principally picnics and fishing. They are good patrons of the tram lines.

The charges are high, 6 cents being the regular rate for a distance of from 2 to 3 miles. Eight miles, the extent of the longest line, costs 36 cents.

The Cape Electric Tramway Company, Limited, has just declared a dividend of 6½ per cent, as against 5½ per cent for 1898.

*This report was made in answer to inquiries by a New York trade journal, to which copy has been sent.

The lines in Cape Town and Port Elizabeth are owned by an English company. They were built by American mechanics, are now managed by Americans, and are a source of revenue to American manufacturers, as supplies come from the United States. There are no better built lines in the world, but I regret to say that the very superior posts (iron) for the conveyance of the wires came from England.

The Port Elizabeth system consists of 11 miles of track, the employees number 100, and there are in use 12 single-deck, 6 double-deck, and 2 trailer cars. Permission has been granted by the Cape government to a company (Mill's Syndicate) to construct a line of electric road from Cape Town to Kamp's Bay. It will pass along the sea road, a fine drive. Orders for material, etc., will begin to be placed about March.

In Kimberley, one-horse cars still run, and the distance covered by the line is about 8 miles. After the war, the power will undoubtedly be changed to electricity.

At Johannesburg, the same style of cars is used as at Kimberley, the Government having refused to grant concessions for the building of the electric line, for the reason "that the farmers would lose the sale of forage (oat straw)." Even the bicycle is objected to for the same reason, and a heavy tax is placed on it.

In East London, there have recently been constructed about 5 miles of electric tram lines. Only 3 cars are in use at present; but the number will be increased. The line was constructed by Johannesburg parties, the motor cars and plant by English and American builders. The line will be opened to the public about February 15 and would have been in operation some time ago, had not delay occurred in delivery of cars by American makers. The substitution of electric cars for the horse cars used in Durban is soon expected. Bids for construction and material are published.

J. G. STOWE,
Consul-General.

CAPE TOWN, *January 23, 1900.*

COLLECTION OF DRAFTS IN CAPE COLONY.

Consul-General Stowe, of Cape Town, on January 29, 1900, says:

In the United States, on shipment of a bill of goods, drafts, both sight and time, are drawn "draft, bill of lading attached." On receipt by the bank at the place of destination, the draft is presented to the consignee, accepted, and the bill of lading turned over to him. He gets the goods from the transportation company, sells them, and pays the draft at its maturity. In other words, the consignee is

allowed the time agreed upon in which to pay for the goods. I submit the following letter, which explains itself, for the purpose of calling to the attention of the manufacturers and producers of the United States the difficulties and annoyances which merchants and agents here must undergo.

As the banks insist upon collecting the draft on arrival (or delivery of bill of lading is refused), I advise that it be stated on the face of the draft that upon acceptance by the consignee the goods shall be delivered. May I add that it would be a wise step if the newspapers of the United States who receive the CONSULAR REPORTS would mention this item.

COLONIAL-AMERICAN IMPORTING COMPANY,
MANUFACTURERS' AGENTS,
NATIONAL BANK BUILDINGS,
Cape Town, January 29, 1900.

Col. J. G. STOWE,
Consul-General, U. S. A., Cape Town.

DEAR SIR: Will you kindly allow us to point out to you some of the trials and tribulations of the importers here who are dealing in American goods.

There seems to be a feeling in the States that because there is war between England and the two Republics of this country, it is unsafe to ship goods to any port of Africa.

We know of manufacturers with a very good trade here who had been selling goods at ninety days who are now drawing at sight, because of the uncertainty of the war. This creates dissatisfaction with the importer and often is a hardship to him, as in such cases he not only must pay the draft upon presentation (no days of grace in this colony), but he must also pay the duty, clearing charges, etc., as well, which often amount to as much as the original cost of the goods.

The bulk of the goods sent into this country are sold on ninety days' time—that is, goods are shipped prepaid to the order of consignor, and consignee is drawn upon for the amount of the goods and charges to port of destination at ninety days' sight. The bill of lading is indorsed over to consignee, and all documents, including copy of invoice, are attached to draft and put through the banks for discount or collection.

It would seem self-evident when a manufacturer or a merchant sells his goods on ninety days' time and makes draft at ninety days that consignee would expect upon accepting such draft to have the documents handed over to him so he could get his goods at once; but this is not in harmony with South African banking.

If goods are sent in this manner without special instructions written either on the draft or paper attached, the banks here say it means they are not to deliver documents unless they receive payment; and in such cases, where consignee refuses to accept draft unless documents are handed over, the draft is protested and the goods are put into bond (which means an enormous expense) to await instructions from the shipper.

If, rather than make shipper any trouble, consignee concludes to pay the draft and take the goods, he will receive a rebate on the exchange at the rate of 4 per cent per annum on the amount, while he is charged at the present time 2½ per cent on his draft. You will see the rebate amounts to nothing in comparison to the amount charged.

We had a case in point where we sold a bill of goods to one of our clients here.

He has been in business over ten years and has a very good credit. The goods were sold on ninety days, and shipped and drawn for ninety days, but our firm neglected to instruct bank to deliver documents upon acceptance; and, although the amount was small and the bank knew and acknowledged that consignee was perfectly good, yet they would not deliver documents without special instructions to do so. Our client, as he said, on principle, would not accept the draft unless the documents were handed over to him. He bought the goods on ninety days, exchange was drawn and charged for at ninety days, and it was the intention of shippers to give ninety days, and therefore he refused to accept the draft. The bank came to us as agents of the house who shipped the goods, and we told them the house was perfectly good and would stand behind the draft, but they said the house did not have anything to do with the draft, as the bank had bought it and it must be paid before the documents would be delivered. As this was all that would satisfy them, we gave them our check and took the bill of our client for the amount. It either meant this or a loss of our client to the shippers.

We have had several such cases as this, and we know of one bank here which has over a hundred drafts of this kind that have been refused and protested. Our friends at home do not need to think that because a bill has been protested it will not be paid, for this is more likely to be caused by the peculiar banking system of the country than by inability to pay on the part of the consignees.

The banks are doing a greater business in the coast ports at the present time than ever before. In talking to the manager of one of the leading banks in relation to the scare in the States about shipping here, he said he "could not see why they should be afraid to ship to Cape Town, for there was more money here than ever before." Another banker said: "The amount of business being done by this bank at the present time exceeds anything we have ever done before."

Cape Town is not feeling the war; in fact, as far as local trade is concerned, it never was so good as at the present time. Port Elizabeth and East London, being essentially forwarding towns, feel the loss of the up-country business much more than we do at this port; but at the same time their local trade has also increased to such an extent that we do not look for any serious failures at those ports as a result of the war. We are receiving reports from our special agents and also from the bankers at these ports on individual firms, and so far bills have been met, and there are no present indications of there being any trouble in the future.

The prolongation of the war simply means more business for the coast towns, as very little is being grown in this country to keep the people during the next year.

Knowing the confidence American manufacturers have in your judgment, we place these facts before you, thinking they would be of interest to you, and that you will be able to bring the matter before American shippers in such a manner that these troubles may be obviated.

Yours very truly,

COLONIAL-AMERICAN IMPORTING CO.,
Per A. H. MASON.

TRADE OPENINGS IN PARA.

Consul Kenneday writes from Para, March 9, 1900:

STEAMSHIP LINES.

The project for the establishment of a new line of steamers between New York and Para has become a law. The governor is authorized to give the new company a subsidy of 70,000 milreis gold annually for a term of twelve years. This amount is equivalent, at present exchange, to about $40,000. The steamers of the company must make twelve round trips the first year and twenty-four round trips yearly thereafter. The steamers must have capacity to carry at least 1,500 tons of cargo, a speed of no less than 13 knots an hour, and accommodations for 50 first-class and 60 third-class passengers.

The prices of passages in the steamers of the two lines now plying between New York and Para are very high, and the steamers have accommodations for but very few passengers, some of them being cargo boats and taking no passengers at all. Although nearer to the United States, a passage from Para to New York costs double that to European ports.

The new line, with low rates for both cargo and passengers, will be of great benefit to our export trade.

One of the leading daily papers here states that a bill is to be proposed in three different States—viz, Amazonas, Pernambuco, and Bahia—authorizing a subsidy equal to that allowed by the State of Para for any steamship company that will accept the terms of agreement herein mentioned—an American company preferred—and that assurances had been given that Rio de Janeiro would appropriate an allowance equivalent to the other four States combined.

The long-talked-of German steamship line, which is to operate between Para and European ports, will make its first voyage April 3, 1900.

On account of political conditions in the Acre district, preventing the shipments of rubber, a crisis has been brought about in these markets. This will not, however, involve foreign firms, and it is thought it will not be of long duration.

RAILWAYS.

The Braganza Railway has been put under the control of the Department of Public Works. The road is to be extended and the rolling stock to be renewed and increased.

Last year, the government of the State of Para bought several locomotives from the Baldwin Locomotive Works, of Philadelphia,

spending about 600,000 milreis, and now an appropriation of about 2,000,000 milreis is to be made for more material. This money will go, no doubt, to our manufacturers.

The period in which to present bids for building the Para and Pinheiro Railway has been extended.

It is now said that the State government will guarantee 7 per cent interest on 600 contos* gold. Following the shore, Pinheiro is some 7 miles from Para, though by land at least 15 miles of railway will be required. It should be remembered that in addition to the 7 per cent interest which is guaranteed by the government (which will not be sufficient to cover expenses and give dividends), there are other attractive inducements. The government will permit the erection of a slaughterhouse and cattle pen, and these will prove a vast source of income. The immense transportation of meat in itself—to say nothing of other cargo and passengers' fare—will prove profitable. These are excellent opportunities for investment of capital, and are certain to be taken up—I fear, by European syndicates—before many days pass by. It would be wise for those who desire to look into this matter to send someone to the spot with funds to do business, as these people can not be reached effectively by cable or long-range correspondence.

Para is to have an elevated railway. Dr. Francisco Bolonha, an enterprising Brazilian who visits the United States quite frequently, is working to obtain a franchise from the municipality to form a company and build an elevated road here. It is thought the franchise will be granted. The road is very much needed, as the service given by the present horse-car line is very poor. Any company interested in this business could purchase the present franchise, and, with proper management, it would be profitable. I am informed that the present company would sell the railway and the electric-light plant for from 8,000 to 10,000 contos,† Brazilian money. The concession is for a term of fifty years.

Another good opportunity, which up to the present time has been sadly neglected, is in the hide industry. Vast quantities of deer, alligator, tiger, snake, and every variety of choice hides and skins known to our civilized markets can be obtained here to great advantage; this port is also central for the trade in rare feathers.

During the time I have served at this post, I have received letter after letter from people inquiring for some American who has come down here and never was heard from, and in every instance I found it impossible to obtain the desired information. This happens because they do not register at the consulate. The interior of Brazil,

* 1 conto=1,000 milreis.

† Equal to 8,000,000 to 10,000,000 milreis. The latest consular reports from Brazil estimate the paper milreis at about 15 cents.

at least in this consular district and Matto Grosso, is as far off from civilization as the interior of Africa.

It would be well for all Americans to register at the consulate, and, when they go to the interior, to leave full details as to the direction of their future movements.

UNITED STATES TRADE.

The number of houses carrying United States goods is growing. Among those worthy of mention is the "Casa Pekin," of João Costa & Co.,* a large store in the leading business street. There is a fine display of American goods in bric-a-brac, sewing machines, glassware, lamps, crockery, ice-cream freezers, and novelties of all kinds. Although the name of the house seems to announce Chinese goods, every article in the store is of United States manufacture. The firm of Gustave Engelke & Co. carries all kinds of musical instruments of United States manufacture. Brazilians are very fond of music, and nearly every house has a piano. This firm has a number of self-playing pianos, organs, and music boxes. Pianos were formerly imported from Germany and France, but Mr. Engelke gives preference to the American article.

In regard to the increasing market for United States goods, Mr. Kenneday said, under date of February 6, 1900:

There is no slack in the demand for American products throughout my consular district. This is conspicuously true of flour and canned goods. Sawmills, sugar mills, machinery and machinery tools, electrical appliances, oils, paints, and a large variety of drugs are rapidly gaining favor. Our shoes are also winning popularity.

Shiploads of canned foods and other products sent here by Messrs. Swift & Co., of Chicago, are now in this harbor awaiting storage room. Libby, McNeill & Libby also have a number of carloads at the port which is yet to be removed from the steamships, and there is a quantity of machinery belonging to the Baldwin Locomotive Works, of Philadelphia.

The premises engaged to hold the goods of Messrs. Swift & Co. are centrally located and occupy nearly a square. This celebrated firm is making preparation for a large exhibit of United States products.

Beers, whiskies, and wines have been introduced into this market in the past thirty days.

It is gratifying to see the attention our manufacturers are paying to this consular district, which, in truth, is the best part of Brazil from a business standpoint. Several firms have opened branch

*Mr. João Costa was one of the delegates sent to the Philadelphia Museums some time ago, and this is the result of his visit.

offices, and one—the Pittsburg Milling Company—is also introducing a new feature in the trade between Brazil and the United States—direct sales to the consumer.

CONCESSIONS.

In a report dated March 16, Mr. Kenneday adds:

I have had a long conference with Dr. Paes de Carvalho, governor of the State of Para, who spoke in detail of the concessions I have described. The budget for 1900–1 will contain large appropriations to enable the government to make the improvements it has been planning. The concessions are of such importance that it would pay our capitalists to send their advance agents here.

The Hamburg-German-American Steamship Company wishes to run a new line from Para to Cuba, New York, Lisbon, Germany, and back. The agent of the company is conferring with the governor, and it is asserted the line will be started, as well as another to Montevideo and Buenos Ayres. The latter will make money, because the supply of meat is largely from that source. When I asked the governor if he did not think the United States could supply the meat-better than the Argentine Republic, he said that he had once had prices from a firm in Texas, but that they were too high. One of our large packing houses could no doubt compete.

The governor is also contemplating the work of dredging the harbor, which is filled with sand banks. This would be a very good investment, as the concession could carry the privilege of collecting a fee from all incoming steamers. The movement of the port is quite large, the number of steamers that came in last year being over a thousand.

PROPOSED TARIFF CHANGES IN BRITISH GUIANA.

Under date of February 16, 1900, Consul Moulton, of Demerara, transmits copies of the official gazette of British Guiana, which contains ordinance No. 1 of 1900 to fix the tariff on goods which may be imported into the colony for such time as the governor may see fit to specify by proclamation.

The following compendium, transmitted by the consul, will show such principal points in the tariff as will apply to imports from the United States should the proposed reciprocity treaty be ratified. Should the treaty fail of ratification, the rates in the third column—"proposed permanent tariff"—will apply to imports from the United States equally with imports from all other countries.

Articles.	I. Present tariff (since March 1, 1899, ad valorem duties 10 per cent).	II. Proposed reciprocity tariff.	III. Proposed permanent tariff (ad valorem duties, 15 per cent).
Acid, sulph	10 per cent ad valorem	15 per cent ad valorem	15 per cent ad valorem.
Bags, sugar	10 per cent ad valorem	$1.25 per 100	$1.25 per 100.
Beef (H. barrels)*	$1 per 200 pounds	40 cents per 200 pounds	$2 per 200 pounds.
Beer, lager:			
Hogsheads	16 cents per gallon	8 cents per gallon	16 cents per gallon.
Per doz. rep. qts	40 cents	20 cents	40 cents.
Per doz. rep. pts	20 cents	10 cents	20 cents.
Bran (bag)	0¼ cent per pound	Free	0¼ cent per pound.
Brandy	$3.20 per gallon	$2.80 per proof gallon	$2.80 per proof gallon.
Bread*	50 cents per 100 pounds	15 cents per 100 pounds	50 cents per 100 pounds.
Bricks	$1 per 1,000	$1.50 per 1,000	$2 per 1,000.
Brooms, corn	20 cents per dozen	Free	20 cents per dozen.
Butter*	2 cents per pound	40 cents per 100 pounds	2 cents per pound.
Candles, tallow	1 cent per pound	Free	1 cent per pound.
Cheese	2 cents per pound	1 cent per pound	2 cents per pound.
Cigars*	$1.80 per pound	$1.50 per pound	$1.50 per pound.
Cocoa	3 cents per pound	4½ cents per pound	4½ cents per pound.
Coffee	do	do	Do.
Corn	0¼ cent per pound	Free	0¼ cent per pound.
Corn meal*	25 cents per 100 pounds	do	25 cents per 100 pounds
Crackers*	50 cents per 100 pounds	15 cents per 100 pounds	50 cents per 100 pounds
Florida water	$3 per imperial gallon	$2.80 per imperial gallon	$2.80 per imperial gallon.
Flour*	$1 per barrel	60 cents per barrel	$1 per barrel.
Geneva*	$3.20 per imperial gallon	$2.80 per proof gallon	$2.80 per proof gallon.
Ghee*	2 cents per pound	40 cents per 100 pounds	2 cents per pound.
Hams	do	0½ cent per pound	Do.
Hay	10 cents per 100 pounds	Free	10 cents per 100 pounds.
Hoops:			
Iron	10 cents per 112 pounds	15 cents per 112 pounds	15 cents per 112 pounds.
Wood	$1.50 per 1,000	5 per cent ad valorem	$1.50 per 1,000.
Horses	$10 per head	Free	$10 per head.
Lard:			
Pure*	1 cent per pound	0½ cent per pound	1 cent per pound.
Watered	3 cents per pound	4 cents per pound	4 cents per pound.
Lime:			
Building—			
Hogsheads	Free	Free	25 cents.
Tierce	do	do	18 cents.
Barrels	do	do	2 cents.
Bags	do	do	Do.
Temper puns	do	do	50 cents.
Lumber, P. pine (undressed).	$3 per 1,000	$1 per 1,000	$3 per 1,000.
Lobsters (tins)	1 cent per pound	5 per cent ad valorem	2 cents per pound.
Matches	60 cents per gross	60 cents per gross	75 cents per gross.
Mules	$10 per head	Free	$10 per head.
Oleomargarine*	2 cents per pound	20 cents per 100 pounds	2 cents per pound.
Paper	10 per cent ad valorem	15 per cent ad valorem	15 per cent ad valorem.
Pitch	50 cents per barrel	Free	50 cents per barrel.
Pork (barrels)*	$1 per 200 pounds	40 cents per 200 pounds	$2 per 200 pounds.
Rice*	35 cents per 100 pounds	40 cents per 100 pounds	40 cents per 100 pounds.
Rosin	50 cents per barrel	Free	50 cents per barrel.
Salmon (tins)	1 cent per pound	5 per cent ad valorem	2 cents per pound.
Sardines (tins)	do	do	Do.
Salt, fine	$1 per 200 pounds	$1.50 per 200 pounds	$1.50 per 200 pounds.
Shooks	8 cents per bundle	12 cents per bundle	40 cents per bundle.
Slates	$1 per 1,000	$1.50 per 1,000	$3 per 1,000.

Articles.	I. Present tariff (since March 1, 1899, ad valorem duties 10 per cent).	II. Proposed reciprocity tariff.	III. Proposed permanent tariff (ad valorem duties, 15 per cent).
Staves:			
W. O.	$2 per 1,000	$3 per 1,000	$4 per 1,000.
R. O.	$1.50 per 1,000	$2 per 1,000	$6 per 1,000.
Tallow	1 cent per pound	Free	1 cent per pound.
Tar	50 cents per barrel	...do	50 cents per barrel.
Tobacco, leaf (H. not under 800 pounds).*	50 cents per pound	55 cents per pound	55 cents per pound.
Tongues	2 cents per pound	50 cents per 100 pounds	2 cents per pound.
Whisky	$3.20 per gallon	$2.80 per proof gallon	$2.80 per proof gallon.

NOTE.—All articles in No. I column, except those marked with an asterisk, pay a surtax of 16⅔ per cent; the same articles in No. III column will pay a surtax of 16⅔ per cent when tariff is put in force.

FINANCIAL CONDITIONS IN BRAZIL.

The following extracts are from a report by Mr. Thomas C. Dawson, secretary of legation at Petropolis, giving a synopsis of the financial operations of the Brazilian Government since the establishment of the Republic:

The present external debt of the Brazilian Federal Government, all payable, principal and interest, in gold, is as follows:

Description.	Amount.	
4½s of 1883	£3,292,000	$16,020,518
4½s of 1888	5,298,600	25,785,637
4½s of 1889	18,398,200	89,534,840
5s of 1895	7,331,600	35,679,231
Western of Minas 5s	3,661,900	17,820,636
Funding loan 6s of 1898 (approximate)	5,000,000	24,332,500
Total	42,982,300	209,173,362

By the operation of the funding-loan arrangement, this amount will be increased by £5,000,000 ($24,332,500) when it is completed in July, 1901.

The first three items, amounting to a total of £26,988,800 ($131,340,995), were due when the Empire fell in 1889.

Cash payments of interest on the above amounts and of the guaranties to the subsidized railroads have been suspended since June, 1898, and the funding bonds above included represent these deferred payments.

The funded internal debt (the amounts being given in contos* of

* 1 conto=1,000,000 reis=1,000 milreis.

reis, each of which at par is worth $550, and at present exchange about $150) is as follows:

Description.	Amount.	
	Contos.	
6s	334,394	$50,159,100
5s	156,731	23,509,650
4s	24,679	3,701,850
6s of 1897	60,000	9,000,000
Bonds of 1868	25,485	3,822,750
Bonds of 1889	18,350	2,752,500
Total	619,639	92,955,850

The amounts given for the bond issues of 1868 and 1889 are approximate, for the reason that the interest was originally payable in gold, and the Government is now engaged in converting them into paper securities.

An estimate of the floating debt outstanding January 1, 1899, was 299,473 contos ($44,920,950). Data for an estimate of the floating debt now outstanding are wanting. The item of treasury bills shows a decrease from last year of from 20,250 contos to 8,500 contos ($3,047,500 to $1,275,500). The amounts due for deposits, pensions, etc., however, show an increase. There is no means of ascertaining the amounts due for unpaid current expenses.

Paper money outstanding amounts to 737,800 contos, which at par is $405,790,000 and at present exchange is worth $110,670,000.

Nickel and copper coins issued amount to 27,500 contos.

The statistics published by the Brazilian Government do not give the receipts and expenditures in such a form that a compendious and indisputable statement by fiscal years can easily be made. Until recently, all returns were made in terms of Brazilian currency, without any distinction between those amounts paid in gold and those paid in paper. The paper unit of value fluctuates so widely and rapidly that clear comparisons are difficult, even if the statistical returns were uniform and up to date.

Mr. Dawson submits an estimate made from the best sources available of the yearly receipts and expenditures of the Government since 1890, in contos of reis.* In another table the receipts and expenditures in pounds sterling are given, based on the average rates of exchange for the different years, with an estimate as to the amounts payable in gold and paper. The following table combines

*No allowance is made for the fluctuations in value of the currency unit, nor is any distinction made between that part of the revenue collected in paper and that received in gold. Before 1899, says the writer, the latter was small. Last year, 10 per cent of import duties was so collected, and this year 15 per cent.

the above statements, giving the amounts in contos and in the United States equivalents of pounds sterling:

Year.	Value in Brazilian currency.		Value in United States currency.	
	Receipts.	Expenditures.	Receipts.	Expenditures.
	Contos.	*Contos.*		
1890	266,684	262,579	$122,076,415	$141,428,101
1891	327,034	276,815	108,393,847	89,748,947
1892	292,669	313,681	70,853,933	75,940,775
1893	390,344	365,932	91,530,261	85,806,011
1894	382,719	487,092	80,390,843	99,709,242
1895	373,729	393,055	75,316,777	79,211,466
1896	390,661	431,076	72,291,237	79,769,979
1897	353,302	434,685	55,300,492	68,038,999
1898	340,727	432,904	49,676,098	61,095,092
1899	310,500	.....	48,725,831	.....

NOTE.—Mr. Dawson explains the increase in the expenditures expressed in contos by the fact that the revenue has been payable for the most part in depreciating currency, while much of the expenditure (interest on the foreign debt, railroad guaranties, supplies for army and navy, diplomatic salaries, etc.) had to be met in gold, necessitating large appropriations to make up the difference between the nominal value of the milreis and its market value. The revenue, stated in contos, he notes, has remained more nearly stationary. The successive increases of 20, 30, 40, and 11 per cent in import duties have been followed by decreases in the volume of imports, and the commercial crisis has tended to reduce revenue below imports. The additional internal taxes have not, up to the present time, adds Mr. Dawson, produced a large increase of revenue.

In 1898, foreign interest and railroad guaranties for half the year, amounting to £1,420,000 ($7,056,425), were unpaid, and in 1899 £3,000,000 ($14,599,500) were so deferred. The budget law estimated the expenditure for 1899 at £10,187,228 ($49,576,145).

In the total for 1894, many of the extraordinary expenses caused by the revolt are included. Eliminating that year, it is to be noted that the annual expenditure of the Brazilian Government since 1890, outside of the service on the foreign loans, has averaged £13,205,000 ($64,262,793) and has not varied widely from that figure. In 1898 it was reduced to £11,300,000 ($54,991,450), and for 1899 the semi-official estimate above referred to shows a further reduction to a little over £10,000,000 ($48,665,000). After the expiration of the "funding-loan" arrangement in July, 1901, the service on the foreign debt will amount to £3,600,000 ($17,519,400) a year.

If the revenues remain as they have for the last three years, at a little over £10,000,000 annually, it is evident that if payments are to be resumed and the budget equilibrium restored, the ordinary administrative expenditure of this Government will have to be further reduced to £6,500,000 ($31,632,250) per annum. The only apparent alternatives to such a radical reduction are a failure to resume payments or an increase of revenue in terms of sterling caused by a large rise in the value of the milreis, unaccompanied by a decrease in the

volume of imports. Duties being specific, a rise in exchange is equivalent to a corresponding increase of duties, at least so far as the 85 per cent payable in paper are concerned. The industrial as well as the Government financial situation would also be relieved by a sale of the Government railroads, which would bring a large quantity of gold into the country.

In view of the above facts, the policy of the present administration may be readily understood. It is to save by economy in administration, to raise the value of the milreis by reducing its volume and by temporarily relieving the market for sterling bills by suspending payments on the gold-bearing foreign debt, and to anticipate partly the consequent real increase in duties by requiring an annually larger proportion to be paid in gold. After the resumption of payment of interest, the rate of exchange might be kept up by the sale of the Government properties. This, however, is not yet a part of the announced programme.

The estimated receipts and expenditures for 1900 are therefore almost exactly equal. If the estimate of receipts is not too high and that of expenditures too low, the Government will be able to continue to withdraw paper money from circulation and to pay off the floating debt without the necessity of deferring the payment of current obligations.

NEW TARIFF DECREE IN VENEZUELA.

Consul Goldschmidt transmits from La Guayra copy of a report by Consular Agent De Sola, of Caracas, in regard to the suppression in part of the war tax. Mr. De Sola incloses an executive decree, which reads:

> The war tax created by decree of the 5th of January last will continue to be levied on all imports and exports up to the last day of the present month [February], inclusive; and thereafter the war tax will be collected under the established tariff only on the wheaten flour imported and on the hides, skins, coffee, and cocoa exported.

The consular agent adds:

The foregoing decree has had the immediate effect of depressing sales in general, as traders will confine purchases of merchandise to such as are indispensable, so as to have only a limited stock on hand on the 1st of March.

While the suppression of the war tax on many goods may tend to enliven trade somewhat after the 1st of March, it will still be crippled by the heavy tax on an article of such prime necessity as flour.

DRY GOODS IN VENEZUELA.

The following extracts are from a report made by Consul Goldschmidt, of La Guayra, under date of February 13, 1900, in response to inquiries from a New York trade journal:*

There is not a United States dry-goods establishment, either wholesale or retail, in Venezuela. This branch of business is generally controlled by Germans, French, or Venezuelans, and the Europeans naturally import most of the dry goods from their native countries. It has been customary in the past for European houses to give extended credits here; but of late this has been somewhat restricted, owing to the political and financial disturbances during the past two years. The European manufacturer pays close attention to the demands of this trade, and will execute an order of almost any size. It would be to our advantage, I think, to combine different manufacturing interests for the purpose of carrying on foreign trade. The rule with the buyer here is to deal with as few individuals as possible, although he wishes to purchase from the manufacturer direct. Traveling agents should wait on the trade several times a year. Catalogues are very well in their way, but no amount of printed matter will accomplish the same results as the man with the sample. I think, too, that the man who is paid a decent salary accomplishes better results than the one who works on commission.

Another important factor is the packing and shipping of goods. In Venezuela, as well as in many other South American countries, duties are levied according to the weight of merchandise, and more may be paid at times on a heavy case than on the contents. Hosiery, ribbons, etc., come from Europe with very light packing. For instance, a dozen fine-grade hose come in a thin but strong wrapping paper, and hundreds of these bundles are packed in a bale covered with burlaps or a very light wooden box. Ribbons are shipped in pieces of about 10 yards or meters, a number of such pieces being folded or rolled and packed closely in a paper box and shipped in bales or light cases. Every effort is made to save weight.

Another point to be remembered is in connection with consular invoices. All goods entered at the custom-houses here must be invoiced, and this brings up the question of classification. It will not pay to pack together goods which belong to different classes of the tariff, and duties are assessed on the whole according to the goods on which the highest rate is demanded.

The absence of a parcels-post system is a great drawback to

*The editor has received copy of the report.

United States trade in Venezuela. French and German trade by parcels post has developed greatly of late, and it is surprising to see the amount of merchandise introduced in this manner. A customer can thus receive an article for his personal use and give it a trial; if satisfactory, the result may be a heavy order for the goods. Many "Yankee notions" now unknown in this market could be introduced in this way.

This is the proper time to introduce United States goods into Venezuela. Europeans give less extended credits at present, and thus are losing one of their advantages over Americans; we should certainly be able to compete under present conditions. In normal times, this market is excellent. We now sell only a small amount of dry goods to Venezuela, mainly heavy drills, ducks, bleached and unbleached cottons, and the cheaper grades of prints.

COFFEE DISEASE IN NICARAGUA.

Consul Donaldson sends from Managua, March 6, 1900, a report by Consular Agent Manning, of Matagalpa, which reads:

The disease which has attacked the coffee trees of this district is commonly known here as "ojo del gallo," but has been pronounced to be properly denominated "*Stilbum flavidum*" by some whose knowledge of botany and plant diseases makes their opinions of value. It was first noticed here and recognized as a disease in 1893 or early in 1894, although the spot had been seen on the trees before that. It seemed to make its appearance first on the slopes of the hills most exposed to the north wind, and therefore most liable to heavy night fogs, and its effects are more noticeable under these conditions; yet, just to prove the rule of exceptions, apparently, it will also be seen in most sheltered spots.

Soil seems to have nothing particularly to do with the disease, as it is found on the most barren and most fertile soils indiscriminately. Its cause is yet a matter of pure conjecture, although one gentleman who has given the question considerable study is of the opinion, based on observation of the habits of a small mosquito, that the fungus may be the spontaneous growth from the excretions of this insect. He claims that wherever the disease first makes its appearance, these small gnats may be found in great numbers.

The disease is a fungus which attacks the leaf of the coffee tree, spreading with great rapidity. The leaves dry up and fall to the ground. The tree then throws out new leaves, which are in turn attacked, with the same result. While very few trees have absolutely died from the disease, they have lost their usefulness entirely, as

they bear no fruit, and cultivation simply seems to protect them, but not to remove the disease. No effort of any value has been put forth up to the present to eradicate this disease. There seems now, however, reason to believe that it will be fought by organized effort. The Club de los Extranjèros, an organization composed wholly of foreigners—principally coffee planters—has taken the matter in hand and is trying to introduce the Bordeaux treatment. They have just ordered the necessary materials (including 2 tons of sulphate of copper and 4 dozen spray pumps) from the United States and have obtained the permission of the Nicaraguan Government for free import and transportation on the Government railroads for these materials. The Nicaraguan Government has also promised to send a commissioner here to investigate the causes and effects of this disease.

It is estimated that in the immediate vicinity of this agency, at least 600,000 trees have been attacked.

MINING IN BRITISH COLUMBIA: CANADA'S MINERAL OUTPUT.

The Discoverers' Financial Corporation and the Universal Corporation, of London, England, will, during the present year, dredge the Saskatchewan River* for gold. It is stated that an English mining engineer (Mr. F. B. Hobsen) has arrived in Montreal from London en route for Edmonton. When he first made representations to London as regards the feasibility of placer mining on the Saskatchewan, he was asked what the bad points were, and replied that in the opinion of some people the fineness of the gold found in the sands might preclude the saving of paying quantities, but they had discovered a process by which at least 75 per cent can be saved.

The gold-holding gravel in the river bed averages a depth of 7 feet, although it has been known to go as deep as 25 feet.

The plant used is called a New Zealand dredge, the cost of which is in the neighborhood of $25,000. It requires three hands and a master to man each one. These dredges work something like those seen every summer in the St. Lawrence channel between Quebec and Montreal. Water is being used to separate the gold from the earth. It is stated that from tests made in hundreds of places in the river the gravel will produce an average of 25 cents per cubic yard, and that this earth, consisting of 2 tons, can be handled for 2 cents per cubic yard. The handling of 3,000 yards is estimated to be a day's work.

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* British Columbia.

According to a report issued by the geological survey, the mineral output of Canada for the year 1899 is placed at $47,000,000. Of this sum, gold is the largest factor, the total being $21,049,000, and of which the Yukon contributed $16,000,000. Coal is the next item of importance, the production for the year 1899 being $9,040,000. Since 1896, the mineral production of Canada has well-nigh doubled in value. The production of other minerals was: Iron, $248,372; lead, $977,250; nickel, $2,067,840; platinum, $835; silver, $1,834,371.

Of the chief contributors to the total mineral production of the country, lead and silver are the only two showing a considerable falling off, and that notwithstanding more favorable prices. This is due to local causes in British Columbia not dependent on the value of the deposits.

GUSTAVE BEUTELSPACHER,
Commercial Agent.

MONCTON, *March 16, 1900.*

COPPER IN ALASKA: NOTES FROM DAWSON.

Deputy Consul Adams writes from Dawson City, February 28, 1900:

The Tanana district, just north by east of Prince William Sound, Alaska, is receiving considerable attention on account of the wonderful richness of its copper deposits. Prospectors report the finding of huge masses of nearly pure copper, from hundreds to thousands of pounds in weight, scattered over the country. A number of expeditions leave Dawson City next month for that district in the interests of companies already formed. The close proximity of this section to Prince William Sound and the local abundance of timber and water insures the most favorable conditions for its development.

Business in Dawson this season has been very quiet, without, however, any great change in prices.

The burnt district is again covered with buildings, mostly of one story only, and not as substantial in character as those destroyed, which indicates that there is doubt in the minds of the property owners as to what will be the condition of business affairs next summer, after the exodus to Nome takes place.

Notwithstanding the difficulties and dangers attending a trip of from 1,200 to 1,400 miles over snow and ice in the most inclement season of the year, no less than 700 people left Dawson for Nome between December 4, 1899, and March 1, 1900, and thousands more are getting ready to leave in the spring by the first boats for the new El Dorado. Most encouraging reports have been received from Nome.

This winter has proven so far the coldest on record, ranging from 17° to 59° below zero.

The output for this season is estimated at from $20,000,000 to $25,000,000, or about double that of a year ago, which large increase is chiefly due to improved methods of working the mines.

SHINGLES IN NEW BRUNSWICK AND QUEBEC.

Formerly, all shingles made in the East were split from blocks and shaved by hand with a drawknife. Those used in Maine, New Hampshire, and part of Massachusetts were pine or shaved cedar, 16 inches long. In other States, 18-inch shingles were used. In the shingle machines then made, the saw struck the bolt at the end, sawing lengthwise of the block. This made a rough surface on the shingles, which was said to hold the water and make them rot quickly. In 1865, there began to come into use machines made at Gardiner and Bangor, Me., which cut the block on the side instead of the end. The shingles sawed in this way had a surface almost as smooth as if shaved and were of the same thickness. These machines caused a revolution in the manufacture of shingles. As the demand increased and cedar became scarce in southern Maine, manufacturers began to move toward the great northern forests.

The Phœnix mill at Fredericton, New Brunswick, was changed from a long lumber mill, and sixteen machines were put in that cut 224,000 shingles per day. In 1888, this mill passed into the hands of an American company from Calais, which erected a mill at Edmunston, New Brunswick, with seven machines. The logs for the Phœnix mill are cut in Aroostook County, Me., and driven down the St. John River. In May, 1888, the first shingle mill in northern New Brunswick sawing for the American market commenced operating at Dalhousie. The owner now has mills at Cabano and Notre Dame du Lac, in Quebec.

The cedar forests remaining in this part of the continent are in Aroostook County, Me., the northern counties of New Brunswick, and the counties of Temiscouata, Rimouski, Bonaventure, and Gaspé, in Quebec. Here, cedar grows large, and there are more trees to the acre than farther south. It is found on the high land as well as in the swamps. In Nova Scotia, cedar does not grow. In southern New Brunswick, there is not enough left to supply ties for the local railroads. The locations named are the last of the cedar forests, and these are being rapidly denuded to supply shingles and railroad ties, and in a few years all will be cut. Good cedar lands should soon become very valuable, as the area is so limited.

In 1888, the first quality of shingles sold in Boston for $3.60 per 1,000; in 1898, for $2.60; in 1899, for $3.10.

The shingles cleared through the United States consulate at St. John, New Brunswick, are sawed from logs cut in northern New Brunswick and Aroostook County, Me. The largest amount of shingles are probably manufactured in the consular district of Campbellton, New Brunswick. The manufacture is increasing here, and during 1899 there were cleared through this office for the United States 124,048,750 shingles, valued at $221,015.40. There was erected during the year one mill, with eight machines, at Cabano and another one at Notre Dame du Lac. Two machines were added to the mill here and several were set up in the woods, to saw in winter only.

The low price of 16-inch shingles has caused them to be used in Vermont, Connecticut, and northern New York, where formerly only 18-inch ones were sold.

All the large mills in this district, except the new one at Cabano, are owned by Americans.

CHARLES A. BOARDMAN,
Commercial Agent.

RIMOUSKI, *February 22, 1900.*

INCREASE IN CANADIAN PREFERENTIAL TARIFF.*

On July 1 next, Canada proposes to increase the British preferential tariff from 25 per cent to 33⅓ per cent. Writing to the Department under date of July 11, 1898,† just a few weeks before the preferential tariff went into effect, I called attention to the fact that, while the new tariff would undoubtedly take some trade away from the United States, the apprehensions as to the total loss were not well founded, as an examination of the imports from England would show that there were only three or four leading lines in which England could compete with the United States. For the great majority of importations, Canada would still be obliged to look to the United States as the cheapest market, notwithstanding the reduction in duties in favor of England.

The facts brought to light during the past two years are full justification for the prediction made. In 1897, the importations from Great Britain into Canada amounted to $29,412,188; in 1898, to $32,500,917; in 1899, to $37,647,000—a gain over the total of 1897 of $8,234,812.

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*See ADVANCE SHEETS No. 702 (April 12, 1900).

†See ADVANCE SHEETS No. 172 (July 21, 1898); CONSULAR REPORTS No. 216 (September, 1898).

The imports into Canada from the United States in 1897 were $61,649,041; in 1898, $78,705,590; and in 1899, $93,007,000—a gain over the total of 1897 of $31,357,959.

This shows that, instead of the preferential tariff reducing the imports from the United States, the trade with Canada has never before developed so rapidly. The only two years that are worthy of comparison with 1898 and 1899 are 1873 and 1874, when there was a growth in imports from the United States over the year 1872 of $30,685,608, the total in 1874 being $54,283,072. As the total in 1897 was $61,649,041, the growth in twenty-three years was less than $7,500,000. That a jump from $61,000,000 to $93,000,000 should follow the enactment of a preferential tariff—when just the opposite effect was looked for—is one of the anomalies of trade.

There is no attempt to conceal the fact that the results of the preferential tariff with England have not met expectations, and it is this undoubtedly that leads to an increase from 25 per cent to 33⅓ per cent in the preferential duties. The additional 8⅓ per cent will probably add to the imports from England, but the same reasons that led to a disappointment in the 25 per cent tariff still exist. A feature, too, that is commented on rather freely in Canadian papers is the fact that, while the imports from Great Britain have increased $8,234,812 in two years, the loss in tariff last year alone on British imports was nearly $2,000,000.

HARLAN W. BRUSH,

NIAGARA FALLS, *March 29, 1900.* *Consul.*

NOTES.

Imports of the Canary Islands.—Consul Berliner sends from Teneriffe, February 17, 1900, statement of the imports at that port in 1899, from which the following, showing the chief articles, is summarized:

Articles.	England.	Germany.	France.	United States.
Beans ..... pounds...	229,186	.....	.....	.....
Beer ..... do.....	203,313	555,738	.....	.....
Boards for boxes ..... do.....	.....	343,194	.....	.....
Candles ..... do.....	443,541	.....	.....	.....
Cement ..... do.....	361,223	.....	677,344	.....
Chemicals and drugs ..... do.....	1,168,978	.....	.....	.....
Coal ..... tons...	88,349	.....	.....	.....
Cotton and textiles of ..... pounds...	1,188,738	129,518	.....	.....
Flour ..... do.....	1,761,661	.....	216,684	.....
Guano ..... do.....	416,738	.....	.....	.....
Hardware ..... do.....	.....	320,902	.....	.....
Paper ..... do.....	.....	367,026	.....	.....
Peat ..... do.....	.....	1,012,452	.....	.....
Petroleum ..... do.....	.....	.....	.....	1,862,882
Potatoes ..... do.....	508,271	246,258	.....	.....
Rice ..... do.....	469,547	227,460	.....	.....
Sawdust ..... do.....	220,464	.....	.....	.....
Semola ..... do.....	880,586	.....	706,728	.....
Soap ..... do.....	1,112,519	.....	.....	.....
Spirits ..... do.....	.....	482,408	.....	.....
Straw ..... do.....	366,923	.....	.....	.....
Sugar ..... do.....	248,866	170,450	.....	.....
Sulphur ..... do.....	.....	.....	546,674	.....
Tiles, plain ..... do.....	.....	.....	1,361,569	.....
Tobacco ..... do.....	.....	404,720	.....	107,155

Belgium sends 3,768,830 pounds of cement; Italy, 486,385 pounds of sulphur; Sweden and Norway, 2,279,715 pounds of wood and 446,586 pounds of sawdust.

Cotton-Seed Oil in Mexico.—The following, dated March 28, 1900, has been received from Consul Griffith, of Matamoros:

The average annual production of cotton-seed oil in Mexico during the past few years has been about 1,500,000 kilograms (3,306,900 pounds), and the consumption last year, as near as can be determined, was 14,000,000 kilograms (30,864,400 pounds). The price has averaged about 25 cents per kilogram. Inasmuch as the crop

in Mexico, as well as in the United States, has been below the average and there is a strong probability (owing to the scarcity of rainfall in the cotton-growing sections of Mexico) of another short crop, the prospects for the oil trade during the coming year are bright. In the manufacture of soap, this oil has no competitor; but both the castor bean and the coyol, on account of their hardiness, may be cultivated in such quantities in the near future as to affect the market. In fact, some of the latest improved machinery for crushing the oil from the castor bean has recently been purchased and will be used to refit a plant near Durango, which has been in operation for two years with unsatisfactory apparatus. The coyol, which flourishes luxuriantly without cultivation throughout the Tropics, is a shrub or species of palm upon which grow bunches of berries. These berries, as they contain 80 per cent of oil, are of inestimable service in the manufacture of soap; but they are said to contain too much acid to render them valuable for lubricating purposes.

Mexican Cattle Industry.—Consul Griffith, of Matamoros, under date of March 23, 1900, says:

Mexico contains a great many haciendas admirably adapted and almost exclusively devoted to the raising of cattle. A fact which is attracting general interest here is that every season shows an improvement in the care taken of the animals, and also in the class imported. The stockmen throughout this country are taking such an interest in this direction and have imported so many pure-bred cattle from the United States that on many haciendas one may find animals which compare favorably with those on noted breeding farms in the north. In former years, they consisted exclusively of the old, long-horned, Spanish and Mexican types, which have large bones and frames and long legs, but are deficient in flesh. This deficiency is certainly not due to the country, for the climate, grass, water, and general topography are decidedly favorable to animal growth and comfort, and, while it is a generally recognized fact that Mexican stock is inferior to United States animals, it is the prevailing opinion that a cross between the pure blood of the north and the cow acclimated here produces a large, healthy, vigorous offspring, with an unusually compact muscular development.

Commercial Conditions in Mexico.—Consul Griffith, of Matamoros, on February 21, 1900, writes:

Confidence in the stability of the present business prosperity has been conclusively shown during the past winter by the increasing

interest evidenced by prominent northern capitalists. Many have visited the Republic, not only in order to investigate purchases previously acquired, but also to make additional investments in favorable agricultural and mining properties. Such handsome dividends have been realized from many of these investments that the owners are very enthusiastic. It is a well-known fact that the commercial interests of this country are unaffected by labor disturbances or panics. Mexico's proposition to decrease the present rate of taxation, which will enable her to redeem outstanding bonds bearing a high rate of interest and to undertake many needed public improvements, is the culminating proof of the excellent condition of her treasury. While in some branches of industry and trade, during the past year, the gains have been moderate, in many the expansion of business has been marvelous. Prospective United States investors may be interested to know of the confidence shown by some of their most prominent countrymen in the business solidity of this country, and at the same time to be assured of the settled determination on the part of the administration to continue its present policy.

Traction Railway in Nicaragua.—Consul Donaldson, of Managua, under date of March 6, 1900, sends a letter from Consular Agent Manning, of Matagalpa, as follows:

A company has been organized, incorporated under a very favorable charter by the Government of Nicaragua, with the title, "Compañía de Trasportes de Matagalpa, Limitado" (capital stock, $20,000), for the purpose of doing a general freight and passenger transportation business between this point and the national railway at Momotombo, or Leon. The stock is all subscribed, and the company perfected organization yesterday by electing Mr. William H. De Savigny president and Mr. Nicholas A. De Laney secretary. It is intended to place improved traction wagons, or "traction trains," on the road as soon as there can be found a company willing to demonstrate the ability of its wagons, or trains, to travel over the roads and do the work required. It seems to me that this is a good field for the traction companies of the United States to look into. The export from here next year will amount to at least 18,000 to 20,000 bags of coffee, and half as much freight will be required to supply the district, which will be brought up from the railroads. The distance is nearly 110 miles, and I can see no serious obstacles to the use of these freighting machines. Undoubtedly, an effort will be made to induce the company to buy English or, perhaps, German machines; but I think neither will bear comparison with American ones.

Projected Railroad in Nicaragua.—Consul Donaldson sends the following from Managua, March 15, 1900:

The Nicaraguan Government is anxious to extend the railroad system to the Atlantic by way of Rama and Bluefields. Bids have not yet been advertised for, but an effort is being made to arrange for the immediate construction of a line either to connect Rama with the railroad now in operation between Managua and Granada or with Lake Nicaragua at San Ubaldo. The distance is about 150 miles in the former and about 105 miles in the latter. The Government will give as guaranty for this work a certain percentage of the import duty collected at Bluefields. The estimated cost is about $2,000,000.

Canadian Production of Wheat.—Commercial Agent Johnson sends from Stanbridge, February 13, 1900, figures showing the position of Canada in the world's production of wheat, as follows:

Country.	Quantity.	Country.	Quantity.
	Bushels.		*Bushels.*
United States	547,303,000	Spain	88,000,000
France	368,000,000	Argentine Republic	80,000,000
Russia in Europe	350,400,000	United Kingdom	65,600,000
Asia (total production)	276,000,000	Canada	64,000,000
Austria-Hungary	191,200,000	Australia	45,200,000
Italy	133,600,000	Africa	32,000,000
Germany	105,600,000		

Mr. Johnson adds:

Although Canada's situation among the principal wheat-producing countries, with respect to quantity, is humble, with respect to quality it is high. The output is also increasing steadily.

Business Profits of Krupp.—Under date of March 22, 1900, Consul-General Guenther transmits the following from Frankfort:

The Frankfurter Zeitung of to-day contains a statement made by a competitor of Krupp with reference to the profits made by Krupp in his contracts with the German Government. He says that some time ago Krupp furnished field guns at $1,145 each. Competitors afterwards received an order for the same kind for $464.30 each. Thereupon Krupp reduced his price from $1,145 to $452.38. For shrapnels, Krupp received $2.03; his competitors furnished them at $1.19. It is an error to say that Krupp alone can furnish nickel plates for the navy. The process of manufacture is no secret, but is known by every intelligent manufacturer. If there were competition, the nickel plates could be obtained at half the price paid to

Krupp. The navy department, however, prescribes conditions which make competition impossible. Testing grounds are required of the same dimensions as those of Krupp, which belong to the Government and have been rented to him. The necessary provisions for testing 24-centimeter guns would cost between $500,000 and $750,000; for 15-centimeter guns, $75,000. Without previous assurances on the part of the Government, nobody would risk such an investment.

Electric Tramways in Germany.—Consul Hughes, of Coburg, on March 7, 1900, quotes from a trade journal the statement that the length of electric lines in Germany shows an increase of 45 per cent over last year, the available power has gone up 57 per cent, and the growth of accumulator installations is represented by the figure of 164 per cent. The tramway accumulators now aggregate almost exactly a fourth of the dynamo power of the power stations; yet there are very few pure accumulator lines. Overhead conductors continue to predominate. Apart from the two pioneer lines of Siemens & Halske, at Berlin and Frankfort, of the years 1881 and 1884, all the electric roads have been built within the last nine years. The total length is 1,274 miles. Most lines have only a single track, which is made feasible by the almost universal practice of stopping at certain points only. The gas tram line at Dessau, which was considered so successful, will adopt electricity the coming summer.

New Method of Bleaching in Germany.—Consul Hughes, of Coburg, under date of March 7, 1900, says:

I wish to call attention to Professor Koechlin's method for the bleaching of cotton and other vegetable fibers by passing them through a bath of 100 liters (26.4 gallons) of water, 10 kilograms (22 pounds) of lime, and 50 kilograms (110 pounds) of bisulphite of soda. They are then steamed for an hour or two under a pressure of from 1 to 2 atmospheres, rinsed again, and dried. The bisulphite can be replaced by hydrosulphite of lime. The cotton or other fiber may be boiled in the bath for a few hours, instead of being steamed. Another process is to subject the goods for six hours under a pressure of two-thirds of an atmosphere to a liquid composed of 1,000 liters (264 gallons) of water, 10 kilograms of dry caustic soda, 10 kilograms of soap, 1 kilogram (2.2 pounds) of calcined magnesia, and 30 liters (7.9 gallons) of peroxide of hydrogen; then rinse, souse, rinse again, and dry. The white obtained is said to be much better than can be had with hypochlorite, and, best of all, does no damage to the fibers or fabric.

Cure for the Hoof and Mouth Disease.—Under date of March 6, 1900, Consul Schumann, of Mainz, transmits the following:

Prof. Dr. Winkler, of Giessen, Hesse, claims to have discovered an extremely simple means for preventing the spread of the hoof and mouth disease (*Eczema epizootica*), a disease which is unusually prevalent among the cattle of this country and which it seems impossible to stamp out. Professor Winkler claims that well-boiled milk of cattle afflicted with the disease given to healthy cattle causes the latter immunity to the disease.

To make cattle immune it is necessary to feed 4 to 6 quarts of the said milk daily to each animal for a period of about eight days. Even though this remedy has not been given such thorough trials as to prove its infallibility beyond doubt, it is nevertheless so simple and inexpensive as to recommend itself at least for trial.

Food for Soldiers in Germany.—Consul-General Guenther writes from Frankfort, March 12, 1900:

On March 9, the first battalion of the One hundred and seventy-fourth Regiment commenced an eight days' march for the purpose of determining the nutritive value of egg crackers and of preserved meat and vegetables, recently manufactured by a firm in Mainz. The crackers are distributed in place of bread; the preserves contain meat and vegetables boiled together, and can be made ready for consumption in from ten to fifteen minutes. The marching exercises cover at first 30 kilometers (18¾ miles) per day and are gradually increased. Officers as well as men are not allowed to partake of anything except the rations furnished. The barracks in which they will pass the night are closely watched, so as to prevent the smuggling in of other food.

New Miners' Lamp in Germany.—Under date of February 26, 1900, Consul Hughes writes from Coburg:

Arthur Eitner, of Leipzig, has patented in this country a magnetic-locking arrangement for miners' lamps. He makes use of a horseshoe magnet with one pole cranked, so that, instead of lying in the same horizontal plane as the other, it occupies a rather higher position. When the lamp ring is brought under the cranked end corresponding to one pole of the magnet, a short vertical bolt is attracted so as to be drawn upward, and this leaves the locking bolt free, which latter is then drawn out horizontally by application of the other pole of the magnet.

Cast Horseshoes in Germany.—Consul Kehl writes from Stettin, February 9, 1900:

Cast horseshoes are manufactured to a considerable extent at Ueckermünde, close to Stettin. The shoes are cast without toe or heels, although heels can be attached, holes being left at the end of the curves for that purpose. A square groove, commencing about 1 inch from the end of each curve, is formed in the bottom part of each shoe. This groove is filled very tightly with one piece of three-fourth-inch tarred hemp rope. The wholesale price for any size or shape is 36 marks ($8.56) per 100 kilograms (220.46 pounds). A set of shoes (medium size) weighs 5½ pounds and would cost about 21 cents wholesale.

Stenographic Typewriter in Germany.—Under date of March 9, 1900, Consul-General Guenther, of Frankfort, says:

Although typewriters for shorthand have been patented, the drawback has been that they wrote upon narrow paper, like a printing telegraph. A stenotyper invented in Germany employs a roll of paper equal in width to an ordinary shorthand notebook. The operator has six keys to tap upon, as against thirty or more on an ordinary typewriter. To read stenotype, the eye must become accustomed to a new style of type, based somewhat upon the Morse alphabet in telegraphy, as it consists of a combination of dots and dashes. The marks of the six keys, which can be tapped simultaneously, can be combined in sixty-three different ways, producing an alphabet of sixty-three letters.

Swiss System of Preserving Eggs.—Consul Ridgely, of Geneva, transmits, under date of March 26, 1900, a letter from Prof. A. Badoud, which reads in substance:

I have recently read in a Geneva newspaper a statement to the effect that fresh eggs are being exported in large quantities from the United States to England. Unhappily, according to reports, the process of packing and shipping which your exporters use makes it necessary to break the shell of the egg in order to preserve it.

I therefore have the honor to inform you that I have a system for preserving eggs which is at once simple and practical and which preserves them absolutely fresh for an indefinite period, without making it necessary to break or otherwise disturb them. My system can be applied to large quantities of eggs and also solves the problem of safe and easy transportation. Although I am (as you may know) the cantonal teacher of the "art of preserving," I do not give lessons or impart information concerning this process, which is strictly secret. I stand ready to dispose of it, however, and I therefore write to you with the idea that the matter may interest some of your countrymen.

Swiss Trade with the Sudan.—Consul-General DuBois, of St. Gall, under date of February 26, 1900, sends the following:

Switzerland for some time has had a successful export business with the Sudan, especially in watches and jewelry. The export business with Tripoli, which has suffered very much during the past year, now shows evidence of vigorous revival, as the caravans to the interior—going to Africa from Tripoli—will now be increased in number since the defeat of the rebels in the Sudan. Timepieces and jewelry to the amount of 1,379,150 francs ($275,830) were exported from Switzerland to the Sudan regions in 1897, and this was increased to $416,800 worth in 1898.

New French-English Cable.—Consul Thackara, of Havre, on March 22, 1900, reports that a new submarine telegraphic cable has been laid between Havre (St. Denis Chef de Caux) and Cuckmen, near Beachy Head, England, by the steamship *Britannia*, for the Anglo-American Telegraph Company. The length of the cable is 81.3 knots. The land connections in England and France will be completed in five or six weeks. As soon as the new cable has been connected with its London wire, the Brest cable will no longer be used by the Anglo-American Telegraph Company.

Belgian Margarin Trade.—Consul Roosevelt, of Brussels, on March 14, 1900, sends figures showing the amount of margarin made in and exported from, as well as the amount imported into, Belgium from 1897 to 1899, inclusive, as follows:

Description.	1897.	1898.	1899.
	Pounds.	*Pounds.*	*Pounds.*
Made in Belgium	19,042,934	20,683,304	23,631,494
Imported	113,721	56,916	55,150
Exported	1,058,484	542,357	1,311,064

Laws Governing Companies in Cape Colony.—Consul-General Stowe transmits from Cape Town copies of the laws relating to the formation and administration of companies in Cape Colony. The text of the laws (too long to be printed in the CONSULAR REPORTS) has been filed for reference in the Bureau of Foreign Commerce, where it can be consulted by interested parties. The law relating to licenses and stamps * is also sent by Mr. Stowe.

* See ADVANCE SHEETS Nos. 370 and 402; CONSULAR REPORTS Nos. 223 and 225.

Petroleum Discovery in Egypt.—Consul-General Long writes from Cairo, March 14, 1900:

I have to report the discovery of petroleum on the Nile, as the result of recent experiments in borings by a syndicate composed of American, English, and Egyptian capitalists, at the head of which is Sir Elwin Palmer, upon whom I called yesterday for detailed information. This gentleman, while admitting the discovery of oil, informed me that he could not furnish data at the present time, but hoped to be able to do so within the next two or three months, upon the receipt of which I will report further.

Bonded Warehouses in Liberia.—Minister Smith, of Monrovia, under date of January 25, 1900, says that the Liberian Legislature has enacted a law for the erection and establishment of bonded warehouses in every port of entry of the country. The object of this is to prevent smuggling and to facilitate the collection of import duties.

Trade Openings in Madagascar.—Consul Gibbs sends the following from Tamatave, March 6, 1900:

I am in receipt of an inquiry from M. Joseph de Floris, Mahanoro, Madagascar, for the names of American builders of steam launches, and from Messrs. Chan, Ming & Co., Tamatave, Madagascar, for the name of a commission agent with whom they may be able to do business direct with America. M. de Floris is a planter of means, and Messrs. Chan, Ming & Co. are the largest Chinese merchants here. It would be well to conduct the correspondence with the latter firm in French or Chinese.

Regulations for Travelers in Madagascar.—Consul Gibbs transmits from Tamatave, February 18, 1900, translation of a decree providing that every Frenchman or foreigner debarking in a port of the colony shall make, within forty-eight hours of his debarkation, a declaration of arrival at the police headquarters, or, if there is none, at the headquarters of the local administration, giving all information necessary to the establishment of his identity, family and Christian names, date and place of birth, profession, etc.

German Clothing for the Transvaal.—Vice-Consul-General Hanauer, of Frankfort, March 2, 1900, writes:

Late German papers report an order of 56,000 overcoats, jackets, and trousers for men's wear given by agents from the Transvaal to

Hamburg and Berlin clothing manufacturers. At the same time, heavy orders for cassimeres were received for the Boers' use. The United States should not overlook the opportunities in the line of ready-made clothing, not only in Africa, but in Central and South America, Australia, etc.

German Demand for Coal.—Vice-Consul-General Hanauer, of Frankfort, on April 10, 1900, reports that a reputable coal dealer of that city (who supplies one of the largest chemical factories in the vicinity) has just called on him in order to learn the names of standard coal companies in the United States. He says his firm wants—if prices and quality of coal are suitable—a contract for 500,000 tons for the next twelve months. He also states that the production of Germany in this line is short of the demand this year by 4,000,000 tons.

Coal Strikes in Germany and Austria Ended.—On March 21, 1900, Consul Hughes, of Coburg, writes that supplies of coal from Saxony, Bohemia, Silesia, and Moravia are again arriving, the strike having practically come to an end on terms offered by the mine owners. It is said that 9,000 men of the 24,000 hands that originally went out on strike are still holding out for better terms.

Increasing the Efficiency of Steam Engines: Correction.—In the report of Consul-General Mason, of Berlin, published in ADVANCE SHEETS OF CONSULAR REPORTS No. 663 (February 26),* a mistake occurred in the proof reading in the Department, by which the formula for sulphurous acid (sulphur dioxide) was made to read H_2SO_3. The correct formula is SO_2.

Shoe Prices in Prussia.—Consul Warner writes from Leipzig, March 7, 1900:

The boot and shoe manufacturers of Weissenfels, Prussia, according to the Leipziger Tageblatt, have increased the price of boots and shoes 5 per cent. It is said that this action on the part of the manufacturers is due to the fact that the price of leather has been recently advanced.

* Also in CONSULAR REPORTS No. 235 (April, 1900).

German Steel-Rail Exports.—Acting Consul Monaghan writes from Chemnitz, February 1, 1900:

Germany's export in steel rails is increasing each year. In 1894 she exported 119,410 tons, worth $2,356,200. In 1898 it increased to 123,839 tons, worth $3,094,000. The importation of steel rails into Germany decreased from 3,542 tons in 1894 to 267 tons in 1898.

Austrian Export Efforts.—Vice-Consul-General Hanauer, of Frankfort, says that according to a recent official statement, Austrian experts in economics are to be sent abroad for studying the conditions of transportation, of manufacturing, and of the export trade. These official investigators are to be stationed at Berlin, Munich, Brussels, Bucharest, Odessa, and New York.

The Gutenberg Festival.—Consul Schumann, of Mainz, reports that on June 23 next a festival will be held in that city in commemoration of the five hundredth anniversary of the birth of Johann Gutenberg, the inventor of the art of printing. In this festival almost all civilized nations will take part, and it is to be hoped that the United States will also be duly represented. In connection with this festival, the foundation of a Gutenberg museum is planned. Donations will be thankfully received.

Public Works at Vladivostock.*—The Department has received a report from Commercial Agent Greener, of Vladivostock, to the effect that the municipality of that city has made estimates for 20 miles of electric-trolley road; also for electric lights and waterworks. Proposals should be made by United States contractors.

San-José-Scale Act in Canada.—Consul-General Turner, of Ottawa, on March 28, 1900, writes:

Hon. Sidney Fisher, Minister of Agriculture, gave notice yesterday in the House of Commons that the Department of Agriculture was to amend the act relating to the San José scale and allow the importation of shrubs, etc., now prohibited, under certain conditions of fumigation, and that fumigating stations would be established in several points of Canada.

*Already given to press.

Quarantine in the Canaries.—Consul Berliner writes from Teneriffe, February 12, 1900, that on the 10th a very rigid quarantine was declared against vessels coming from Argentina. The quarantine regulations against Madeira have been taken off.

Consular Reports Transmitted to Other Departments.—The following reports from consular officers (originals or copies) have been transmitted since the date of the last report to other Departments for publication or for other action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
O. J. D. Hughes, Coburg.....	Mar. 21, 1900	Cause of death in pond trout.	Fish Commission.
S. Listoe, Rotterdam.....	Apr. 3, 1900	Dairying.....	Department of Agriculture.

FOREIGN REPORTS AND PUBLICATIONS.

Production of Petroleum in Japan.—The following is taken from Nachrichten für Handel und Industrie, Berlin, January 9, 1900:

It was known in ancient times that the ground of Echigo province, on the Japanese Sea, was rich in petroleum, but the value of the "evil-smelling waters," as the country people called these springs, was first recognized when, with the advance of western civilization into Japan, petroleum lamps also entered the country. Then the working of the petroleum fields began. In 1875, the production of crude petroleum amounted to some 9,000 hectoliters (237,600 gallons). Until recently, the output has been small in proportion to the richness of the springs. The slow development has been due not only to the lack of capital on the part of the natives of Echigo, but also because the cooperation of foreign capital (even of another province) was prohibited. The recently awakened spirit of enterprise in Japan has, however, turned its attention to this province; larger companies have been formed, employing a capital of about $1,547,000. The pipes through which the oil is conveyed to the refineries and again to the shipping place are already about 40 miles long, and probably a fourth part of the oil fields is being worked. There are no official statistics as yet available for the year 1898, but the yield of crude petroleum will probably reach 500,000 hectoliters (13,200,000 gallons). The Japanese customs receipts for 1898 give the import of refined petroleum as 2,570,000 hectoliters (67,848,000 gallons). The United States holds the first place in this import, Russia the second, Sumatra also being credited with a small quantity. It follows that 10 per cent of the amount consumed is supplied by the native product. This proportion must change in the course of time in favor of the Japanese oil, since the greater part of the field is still awaiting development; and companies with the latest systems of machinery have begun work. Railway wagon tanks (some fifty are already in use) are used for the transportation of the oil. It is offered to the trade in the same manner as the American oil—that is, in tin cases containing 5 gallons each, two of which are packed in a wooden crate. The wholesale market price is subject to considerable fluctuations. As a rule, the native oil is a small per cent cheaper than the imported. The following quotations are given for the 6th of November, 1899: American petroleum, case containing 2 tin boxes of 5 gallons each, $1.489; Russian petroleum, case containing 2 tin boxes of 5 gallons each, $1.484; Japanese petroleum, case containing 2 tin boxes of 5 gallons each, $1.369 to $1.394.

The Japanese petroleum leaves something to be desired in point of quality; still, by careful refining it can be made to compete with foreign oils. It is now used as a means of illumination in almost all Japanese houses, and the consumption must increase more rapidly as it comes into use for fuel for locomotives and the like.

Commerce of Bulgaria.—The Revue du Commerce Extérieur, Paris, January 20, 1900, quotes from the official statistics of Bulgaria as follows:

The commercial movement of Bulgaria in 1898 was valued at 139,267,257 francs ($26,898,581), of which the imports were figured at 72,730,250 francs ($14,036,938) and the exports at 66,537,007 francs ($12,841,642). These returns, compared with those of 1897, show a decrease of 11,267,986 francs ($2,173,949) for the imports and an increase of 6,746,490 francs ($1,302,074) in the exports. The following table gives the value of the imports for 1898 by articles:

Articles.	Value.	
	Francs.	
Animals, live	228,890	$44,196
Animal food products	951,755	183,689
Cereals	961,151	185,502
Fruits and vegetables	696,282	134,382
Colonial commodities	5,354,898	1,033,495
Beverages (liquors)	1,627,238	314,057
Preserves and sweetmeats	534,838	103,224
Fertilizers and wastes	113,067	21,822
Fuel	739,337	142,692
Chemical products	666,754	128,684
Tannin, dyestuffs, colors, varnish	1,248,182	240,899
Rosins, mineral oils	2,020,203	389,899
Oils, fats, wax, and products	2,539,713	490,165
Drugs and medicines	463,597	89,474
Perfumeries	142,429	27,489
Stones, earth, glass, and products	1,815,526	350,397
Metals, manufactures of	10,722,336	2,069,411
Wood and manufactures of	4,131,573	797,404
Paper and manufactures of	1,913,356	369,278
Skins	3,953,205	762,969
Textile products and raw material	21,955,729	4,237,456
Rubber	337,298	65,099
Wagons, carriages, boats	951,818	183,701
Machines, tools, etc	5,100,000	984,300
Hardware, toys, jewelry	561,598	108,389
Books and plastic art	280,571	54,150

The share of foreign countries in this importation was as follows:

Country.	Value.	
	Francs.	
Austria-Hungary	20,454,821	$3,947,780
England	17,383,630	3,355,041
Germany	9,390,544	1,812,374
Turkey	7,444,885	1,436,863
France	4,310,686	831,962
Belgium	3,716,259	717,236
Russia	3,166,416	611,118
Italy	2,707,315	522,512
Roumania	1,532,336	295,741
Switzerland	814,491	157,197
Servia	556,191	107,345
Greece	530,038	102,297
United States	397,009	76,623
Holland	122,116	23,568
Sweden and Norway	51,476	9,935

Railway Construction in British India.—In the Board of Trade Journal, London, February 1, 1900, the following appears:

The Times of India has recently published information concerning some of the schemes of railway construction in Upper India. The government has decided that the Shahdara (Delhi)-Saharanpur Railway, with a branch to Meerut, should be offered for construction by private enterprise as light railways on a 2-foot-6-inch gauge, and action is being accordingly taken by the Northwestern Provinces government. The project for the Sahranpur-Rajpur line has been superseded by the line from Hardwar to Dehra, now under construction. It has been decided that the Ludhiana-Ferozepore line shall, when the time comes, be constructed and worked as an integral part of the Northwestern Railway. The Jullundur-Hoshiarpur Railway is regarded as a project suitable to be undertaken by a branch-line company, under the rebate terms of the resolution of April 17, 1896, and the government is prepared to receive offers accordingly. The Jullundur-Karputhala branch will be reserved for the native state concerned. The Pathankot-Baijnath (or Palampur) Railway, with branch to Dalhousie, or Dharmsala and Chamba, is one which should be carried out by private enterprise without state assistance. The Jammu-Srinagar Railway is reserved for construction by the Cashmere State. The Kala-ki Sarai-Abbottabad-Cashmere line is in abeyance. When the time comes, the portion in Cashmere will be reserved for construction by the state. The Jech Doab loop line from Malakwal or Bhera to Lyallpur will be constructed and worked as an integral portion of the Northwestern Railway. The last report of the directors of the East Indian Railway Company states that the progress in the construction of the Moghabserai-Gya line has been satisfactory. The great bridge over the Sone at Dehri was expected to be finished and the line opened through to Gya by the 1st of February, 1900. The survey of the line to connect Gya with the main line in the vicinity of the Jherriah coal field has been put in hand, and the designs and estimates for the proposed relief line between Burdwan and Howrah are well advanced. The negotiations with a view to the construction of a line to connect Bhagalpur with the chord line near Baidyanath are still pending.

New Russian Railways.—The Revue du Commerce Extérieur, Paris, March 17, 1900, says that, according to a dispatch from St. Petersburg, the plan for the network of railways which Russia proposes to build into Armenia and Anatolia has just been completed by one of the ministers.

The line Kars-Erzerum will be extended as far as Trebizond, and a line following the coast will go from Batum to Trebizond. A new concession will be demanded from the Turkish Government, viz, the right to prolong this line from Trebizond to Sinope. In any case, adds the Revue, Russia can not allow the line from Batum to Sinope to be built or worked by any other power. Another branch of the line Kars-Erzerum will be prolonged via Sivas to Angora, where it will connect with the already existing Turkish line, thus opening direct communication between the Caucasus and the Bosphorus.

Railroad Projects in Bolivia.—The Nachrichten für Handel und Industrie, Berlin, February 21, 1900, has the following:

According to a communication from the French agent in La Paz, the Bolivian Government has appropriated, in the budget of the current year, 120,000 bolivars ($51,240) for the preliminary studies of three railway lines, viz: From Oruro to La Paz and Lake Titicaca, from Oruro to Cochabamba, and from Challapata to Colquechaca. A further sum of $21,350 will be appropriated for the surveys of a railway from Potosi to the Argentine boundary.

Gold Production of British and French Guiana.—The Nachrichten für Handel und Industrie, Berlin, March 15, 1900, gives the following statistics regarding the gold production in British Guiana for the years 1895–1899:

Year.	Quantity.	Value.	
	Ounces.		
1895	122,023	£451,200	$2,195,765
1896	124,713	461,300	2,196,251
1897	122,702	449,200	2,186,032
1898	113,070	412,200	2,005,971
1899	112,944	414,800	2,018,624

Twenty thousand one hundred persons were employed in the gold fields in the year 1899—14,805 in Georgetown, 2,624 in Bartica, and 2,624 in Arakaka.

According to a statement published in the Dépêche Coloniale, of February 25,* the output of gold in French Guiana for the twelve months ended December 31 last was 2,541.35 kilograms (5,602.6 pounds).

Trade of Beira.—According to a recent edition of the Revista Portugueza, Lisbon, the imports of Beira in 1898 were valued at $4,433,382—three times as much as the previous year. The transit trade amounted to $861,371. The exportations were $150,862, a slight decrease from 1897. Gold in bars represented the principal item. The commerce is increasing on account of the importation of building material for the railway line to Salisbury. Other trade is chiefly in provisions and goods for the personal consumption of the European residents. Cotton cloth and various trifles are bought by the natives. Of the imports, $2,457,583 worth came from England, $613,179 from Portuguese territory, and the rest principally from Germany, France, India, and Natal.

* Quoted in the Board of Trade Journal, London, March 1, 1900.

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PUBLICATIONS OF THE BUREAU OF FOREIGN COMMERCE.*

The publications of the Bureau of Foreign Commerce, Department of State, are:

I.—COMMERCIAL RELATIONS, being the annual reports of consular officers on the commerce, industries, navigation, etc., of their districts.

II.—CONSULAR REPORTS, issued monthly, and containing miscellaneous reports from diplomatic and consular officers.

III.—ADVANCE SHEETS, CONSULAR REPORTS, issued daily, except Sundays and legal holidays, for the convenience of the newspaper press, commercial and manufacturing organizations, etc.

IV.—EXPORTS DECLARED FOR THE UNITED STATES, issued quarterly, and containing the declared values of exports from the various consular districts to the United States for the preceding three months.

V.—SPECIAL CONSULAR REPORTS, containing series of reports from consular officers on particular subjects, made in pursuance to instructions from the Department.

Following are the special publications issued by the Bureau prior to 1890:

Labor in Europe, 1878, one volume; Labor in Foreign Countries, 1884, three volumes; Commerce of the World and the Share of the United States Therein, 1879; Commerce of the World and the Share of the United States Therein, 1880–81; Declared Exports for the United States, First and Second Quarters, 1883; Declared Exports for the United States, Third and Fourth Quarters, 1883; Cholera in Europe in 1884, 1885; Trade Guilds of Europe, 1885; The Licorice Plant, 1885; Forestry in Europe, 1887; Emigration and Immigration, 1885–86 (a portion of this work was published as CONSULAR REPORTS No. 76, for the month of April, 1887); Rice Pounding in Europe, 1887; Sugar of Milk, 1887; Wool Scouring in Belgium, 1887; Cattle and Dairy Farming in Foreign Countries, 1888 (issued first in one volume, afterwards in two volumes); Technical Education in Europe, 1888; Tariffs of Central America and the British West Indies, 1890.

The editions of all these publications except Tariffs in Central America, etc., are exhausted and the Department is, therefore, unable to supply copies.

In 1890, the Department decided to publish reports on special subjects in separate form, to be entitled SPECIAL CONSULAR REPORTS. There are now the following SPECIAL CONSULAR REPORTS:

Vol. 1 (1890).—Cotton Textiles in Foreign Countries, Flax in Spanish America, Carpet Manufacture in Foreign Countries, Malt and Beer in Spanish America, and Fruit Culture in Foreign Countries.

Vol. 2 (1890 and 1891).—Refrigerators and Food Preservation in Foreign Countries, European Emigration, Olive Culture in the Alpes Maritimes, and Beet-Sugar Industry and Flax Cultivation in Foreign Countries.

Vol. 3 (1891).—Streets and Highways in Foreign Countries. (New edition, 1897.)

Vol. 4 (1891).—Port Regulations in Foreign Countries.

Vol. 5 (1891).—Canals and Irrigation in Foreign Countries. (New edition, 1898.)

Vol. 6 (1891 and 1892).—Coal and Coal Consumption in Spanish America, Gas in Foreign Countries, and India Rubber.

Vol. 7 (1892).—The Stave Trade in Foreign Countries and Tariffs of Foreign Countries.

Vol. 8 (1892).—Fire and Building Regulations in Foreign Countries.

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* Formerly Bureau of Statistics. Name changed to Bureau of Foreign Commerce by order of the Secretary of State, July 1, 1897.

Vol. 9 (1892 and 1893).—Australian Sheep and Wool and Vagrancy and Public Charities in Foreign Countries.

Vol. 10 (1894).—Lead and Zinc Mining in Foreign Countries and Extension of Markets for American Flour. (New edition, 1897.)

Vol. 11 (1894).—American Lumber in Foreign Markets. (New edition, 1897.)

Vol. 12 (1895).—Highways of Commerce. (New edition, 1899.)

Vol. 13 (1896 and 1897).—Money and Prices in Foreign Countries.

Vol. 14 (1898).—The Drug Trade in Foreign Countries.

Vol. 15 (1898).—Part I. Soap Trade in Foreign Countries; Screws, Nuts, and Bolts in Foreign Countries; Argols in Europe, Rabbits and Rabbit Furs in Europe, and Cultivation of Ramie in Foreign Countries. Part II. Sericulture and Silk Reeling and Cultivation of the English Walnut.

Vol. 16 (1899).—Tariffs of Foreign Countries. Part I. Europe. Part II. America. Part III. Asia, Africa, Australasia, and Polynesia.

Vol. 17 (1899).—Disposal of Sewage and Garbage in Foreign Countries; Foreign Trade in Coal Tar and By-Products.

Vol. 18 (1900).—Merchant Marine of Foreign Countries.

Of these SPECIAL CONSULAR REPORTS, Australian Sheep and Wool, Cotton Textiles in Foreign Countries; Disposal of Sewage, etc.; Files in Spanish America, Fire and Building Regulations, Gas in Foreign Countries, India Rubber, Lead and Zinc Mining, Malt and Beer in Spanish America, Port Regulations, Refrigerators and Food Preservation, Soap, etc.; Sericulture, etc.; Vagrancy, etc., are exhausted, and no copies can be supplied by the Department.

There was also published, in 1899, Proclamations and Decrees during the War with Spain, comprising neutrality circulars issued by foreign countries, proclamations by the President, orders of the War and Navy Departments, and war decrees of Spain.

Of the monthly CONSULAR REPORTS, many numbers are exhausted or so reduced that the Department is unable to accede to requests for copies. Of the publications of the Bureau available for distribution, copies are mailed to applicants without charge. In view of the scarcity of certain numbers, the Bureau will be grateful for the return of any copies of the monthly or special reports which recipients do not care to retain. Upon notification of willingness to return such copies, the Department will forward franking labels to be used in lieu of postage in the United States, Canada, the Hawaiian Islands, and Mexico.

Persons receiving CONSULAR REPORTS regularly, who change their addresses, should give the old as well as the new address in notifying the Bureau of the fact.

In order to prevent confusion with other Department bureaus, all communications relating to consular reports should be carefully addressed, "Chief, Bureau of Foreign Commerce, Department of State, Washington, U. S. A."

VALUES OF FOREIGN COINS AND CURRENCIES.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

The fact that the market exchange value of foreign coins differs in many instances from that given by the United States Treasury has been repeatedly called to the attention of the Bureau of Foreign Commerce. An explanation of the basis of the quarterly valuations was asked from the United States Director of the Mint, and under date of February 7, 1898, Mr. R. E. Preston makes the following statement:

"When a country has the single gold standard, the value of its standard coins is estimated to be that of the number of grains fine of gold in them, 480 grains being reckoned equivalent to $20.67 in United States gold, and a smaller number of grains in proportion. When a country has the double standard, but keeps its full legal-tender silver coins at par with gold, the coins of both gold and silver are calculated on the basis of the gold value.

"The value of the standard coins of countries with the single silver standard is calculated to be that of the average market value of the pure metal they contained during the three months preceding the date of the proclamation of their value in United States gold by the Secretary of the Treasury. The value of the gold coins of silver-standard countries is calculated at that of the pure gold they contain, just as if they had the single gold standard.

"These valuations are used in estimating the values of all foreign merchandise exported to the United States. The value of the Indian rupee, although calculated according to law at the value of the pure metal contained therein, has a commercial value above the value of the silver bullion; consequently the value for customs purposes is determined in each case by the consular certificates attached to the invoice of exports from that country to the United States."

The following statements, running from January 1, 1874, to April 1, 1900, have been prepared to assist in computing the values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. When it is taken into account

that the ruble of Russia, for instance, fluctuated from 77.17 cents in 1874 to 37.4 cents in April, 1897, such computations are wholly misleading. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1890, and in the quarterly valuations thereafter.

To meet typographical requirements, the quotations for the years 1876, 1877, 1879, 1881, 1882, and 1891–95 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz: (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

A.—*Countries with fixed currencies.*

The following official (United States Treasury) valuations of foreign coins do not include "rates of exchange."

Countries.	Standard.	Monetary unit.	Value in U.S.gold.	Coins.
Argentine Republic*.	Gold and silver..	Peso.....	$0.96,5	Gold—Argentine ($4.82,4) and ½ Argentine; silver—peso and divisions.
Austria-Hungary†.....	Gold	Crown.....	.20,3	Gold—20 crowns ($4.05,2) and 10 crowns.
Belgium	Gold and silver..	Franc.....	.19,3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil.....	Gold	Milreis.....	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British North America (except Newfoundland).	.....do	Dollar.....	1.00	
British Honduras.....	.....do	.....do	1.00	
Chile.....	.....do	Peso.....	.36,5	Gold—escudo ($1.25), doubloon ($3.65), and condor ($7.30); silver—peso and divisions.
Costa Rica.....	.....do	Colon.....	.46,5	Gold—2, 5, 10, and 20 colons; silver—5, 10, 25, and 50 centisimos.
Cuba	Gold and silver..	.....do	.92,6	Gold—doubloon ($5.01,7); silver—peso (60 cents).
Denmark	Gold	Crown.....	.26,8	Gold—10 and 20 crowns.
Egypt.....	.....do	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland.....	.....do	Mark.....	.19,3	Gold—10 and 20 marks ($1.93 and $3.85,9).
France	Gold and silver..	Franc.....	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany	Gold	Mark.....	.23,8	Gold—5, 10, and 20 marks.
Great Britain.....	.....do	Pound sterling...	4.86,6½	Gold—sovereign (pound sterling) and half sovereign.
Greece.....	Gold and silver..	Drachma.....	.19,3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti	.....do	Gourde.....	.96,5	Silver—gourde.
Italy.....	.....do	Lira	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Japan‡.....	Gold.....	Yen.....	.49,8	Gold—1, 2, 5, 10, and 20 yen.
Liberia	.....do	Dollar.....	1.00	
Netherlands§.....	Gold and silver..	Florin	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Newfoundland	Gold	Dollar.....	1.01,4	Gold—$2 ($2.02,7).
Portugal.....	.....do	Milreis.....	1.08	Gold—1, 2, 5, and 10 milreis.
Russia	.....do	Ruble.....	.51,5	Gold—imperial ($7.718) and ½ imperial ($3.80); silver—¼, ½, and 1 ruble.
Spain.....	Gold and silver..	Peseta.....	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway.	Gold	Crown.....	.26,8	Gold—10 and 20 crowns.
Switzerland	Gold and silver..	Franc.....	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey	Gold	Piaster.....	.04,4	Gold—25, 50, 100, 200, and 500 piasters.
Uruguay	Gold	Peso.....	1.03,4	Gold—peso; silver—peso and divisions.
Venezuela.....	Gold and silver..	Bolivar.....	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

* In 1874 and 1875, the gold standard prevailed.

† The gold standard was adopted October 1, 1892. (See CONSULAR REPORTS No. 147, p. 623.) Values are still, however, frequently expressed in the florin or gulden, which is worth 2 crowns or 40.6 cents.

‡ Gold standard adopted October 1, 1897. (See CONSULAR REPORTS No. 201, p. 259.)

§ See note to table of fluctuating currencies.

' For an account of the adoption of the gold standard, see Review of the World's Commerce, 1896-97, p. 254.

B.—*Countries with fluctuating currencies, 1874–1890.*

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1875.	1878.	1880.	1883.	1884.
Austria-Hungary*.	Silver	Florin	$0.47,6	$0.45,3	$0.45,3	$0.41,3	$0.40,1	$0.39,8
Bolivia	do	Dollar until 1890; boliviano thereafter.	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Central America	do	Peso	.96,5	.91,8	.91,8	.83,6	.....	.....
China	Silver	Haikwan tael	1.61	1.61	.....	.....	.....	.....
Colombia	do	Peso	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Ecuador	do	do	.96,5	.91,8	.91,8	.83,6	.81,2	.80,6
Egypt†	Gold	Pound (100 piasters).	.....	.....	4.97,4	4.97,4	4.90	4.90
India	Silver	Rupee	.45,8	.43,6	.43,6	.39,7	.38,6	.38,3
Japan	Gold / Silver	Yen	.99,7	.99,7	.99,7	.99,7	.....	.....
			.....	.....	.....	.....	.87,6	.86,9
Mexico	do	Dollar	1.04,7½	.99,8	.99,8	.90,9	.88,2	.87,5
Netherlands‡	Gold and Silver.	Florin	.40,5	.38,5	.38,5	.40,2	.....	.....
Peru	Silver	Sol	.92,5	.91,8	.91,8	.83,6	.81,2	.80,6
Russia	do	Ruble	.77,17	.73,4	.73,4	.66,9	.65	.64,5
Tripoli	do	Mahbub of 20 piasters.	.87,09	.82,9	.82,9	.74,8	.73,3	.72,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1885.	1886.	1887.	1888.	1889.	1890.
Austria-Hungary*.	Silver	Florin	$0.39,3	$0.37,1	$0.35,9	$0.34,5	$0.33,6	$0.42
Bolivia	do	Dollar until 1880; boliviano thereafter.	.79,5	.75,1	.72,7	.69,9	.68	.85
Central America	do	Peso	.....	.....	.....	.69,9	.68	.85
Colombia	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Ecuador	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Egypt†	Gold	Pound (100 piasters).	4.90	4.90	4.94,3	4.94,3	4.94,3	4.94,3
India	Silver	Rupee	.37,8	.35,7	.34,6	.32,2	.32,3	.40,4
Japan	Gold / Silver	Yen	.....	.....	.99,7	.99,7	.99,7	.99,7
			.85,8	.81	.78,4	.75,3	.73,4	.91,7
Mexico	do	Dollar	.86,4	.81,6	.79	.75,9	.73,9	.92,3
Peru	Silver	Sol	.79,5	.75,1	.72,7	.69,9	.68	.85
Russia	do	Ruble	.63,6	.60,1	.58,2	.55,9	.54,4	.68
Tripoli	do	Mahbub of 20 piasters.	.71,7	.67,7	.65,6	.63	.61,4	.76,7

*The silver standard prevailed in Austria-Hungary up to 1892. The law of August 2 of that year (see CONSULAR REPORTS No. 147, p. 623) established the gold standard.

†The Egyptian pound became fixed in value at $4.94,3 in 1887.

‡The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

C.—*Quarterly valuations of fluctuating currencies.*

Countries.	Monetary unit.	1897.				1898.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Bolivia	Silver boliviano.	$0.47,4	$0.46,8	$0.44,3	$0.41,2	$0.42,4	$0.40,9	$0.41,8	$0.43,6
Central America.	Silver peso	.47,4	.46,5	.44,3	.41,2	.41,4	.40,9	.41,8	.43,6
China	Amoy tael	.76,7	.75,7	.71,7	.66,4	.68,5	.66,2	.67,6	.70,6
	Canton tael	.76,5	.75,5	.71,5	.66,4	.68,3	.66	.67,4	.70,4
	Chefoo tael	.73,3	.72,4	.68,6	.63,7	.65,5	.63,3	.64,6	.67,5
	Chinkiang tael	.74,9	.73,9	.70	.65,1	.66,9	.64,6	.66	.69
	Fuchau tael	.70,9	.70	.66,3	.61,6	.63,4	.61,2	.62,5	.65,3
	Haikwan tael	.78	.77	.73,1	.67,8	.69,7	.67,3	.68,8	.71,8
	Hankau tael	.71,7	.70,8	.67,1	.62,3	.64,1	.61,9	.63,2	.66
	Ningpo tael	.73,7	.72,8	.68,9	.64	.64,3	.63	.65	.67,9
	Niuchwang tael.	.71,9	.71	.67,2	.62,5	.65,9	.62	.63,4	.66,2
	Shanghai tael	.70	.69,1	.65,5	.60,8	.62,6	.60,4	.61,7	.64,5
	Swatow tael	.70,8	.69,9	.66,2	.61,5	.63,3	.61,1	.62,4	.65,2
	Takao tael	.77,2	.76,2	.72,2	.67	.66	.66,6	.68	.71
	Tientsin tael	.74,3	.73,4	.69,5	.64,6	.66,4	.64,1	.65,5	.68,4
Colombia	Silver peso	.47,4	.46,8	.44,3	.41,2	.42,4	.40,9	.41,8	.43,6
Ecuador	do	.47,4	.46,8	.44,3	.41,2	.42,4	.40,9	.41,8	.43,6
India*	Silver rupee	.22,5	.22,2	.21,1	.19,6	.20,1	.19,1	.19,9	.20,7
Japan	Silver yen	.51,1	.50,5						
Mexico	Silver dollar	.51,5	.50,8	.48,2	.44,6	.46	.44,4	.45,4	.47,4
Persia	Silver kran	.08,7	.08,6	.08,2	.07,6	.07,8	.07,5	.07,7	.08
Peru	Silver sol	.47,4	.46,8	.44,3	.41,2	.42,4	.40,9	.41,8	.43,6
Russia	Silver ruble	.37,9	.37,4						

Countries.	Monetary unit.	1899.				1900.	
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.
Bolivia	Silver boliviano.	$0.43,9	$0.43,4	$0.44,3	$0.43,6	$0.42,7	$0.43,6
Central America	Silver peso	.43,9	.43,4	.44,3	.43,6	.42,7	.43,6
China	Amoy tael	.71	.70,2	.71,6	.70,5	.69,1	.70,5
	Canton tael	.70,8	.70	.71,4	.70,3	.68,9	.70,3
	Chefoo tael	.67,9	.67,2	.68,4	.67,4	.66,1	.67,4
	Chinkiang tael	.69,3	.68,6	.69,9	.68,9	.67,5	.68,8
	Fuchau tael	.65,6	.65	.66,2	.65,2	.64	.65,2
	Haikwan tael	.72,2	.71,4	.72,8	.71,8	.70,3	.71,7
	Hankau tael	.66,4	.65,7	.67	.66	.64,7	.65,9
	Ningpo tael	.68,2	.67,5	.68,8	.67,8	.66,5	.67,7
	Niuchwang tael.	.66,5	.65,9	.67,1	.66,1	.64,8	.66,1
	Shanghai tael	.64,8	.64,1	.65,4	.64,4	.63,1	.64,4
	Swatow tael	.65,5	.64,9	.66,1	.65,1	.63,9	.65,1
	Takao tael	.71,4	.70,7	.72	.71	.69,6	.70,9
	Tientsin tael	.68,8	.68	.69,4	.68,3	.67	.68,3
Colombia	Silver peso	.43,9	.43,4	.44,3	.43,6	.42,7	.43,6
Ecuador	do	.43,9	.43,4	.44,3	.43,6	.42,7	.43,6
India*	Silver rupee	.20,8	.20,6	.21	.20,7	.20,3	.20,7
Mexico	Silver dollar	.47,7	.47,2	.48,1	.47,4	.46,4	.47,3
Persia	Silver kran	.08,1	.08	.08,2	.08	.07,9	.08
Peru	Silver sol	.43,9	.43,4	.44,3	.43,6	.42,7	.43,6

*The commercial value of the rupee to be determined by consular certificate.

FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalents.
Almude	Portugal	4.422 gallons.
Ardeb	Egypt	7.6907 bushels.
Are	Metric	0.02471 acre.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentine Republic	25.3175 pounds.
Do	Brazil	32.38 pounds.
Do	Cuba	25.3664 pounds.
Do	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do	Venezuela	25.4024 pounds.
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons.
Arshine	Russia	28 inches.
Arshine (square)	do	5.44 square feet.
Artel	Morocco	1.12 pounds.
Baril	Argentine Republic and Mexico	20.0787 gallons.
Barrel	Malta (customs)	11.4 gallons.
Do	Spain (raisins)	100 pounds.
Berkovets	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bouw	Sumatra	7,096.5 square meters.
Bu	Japan	0.1 inch.
Butt (wine)	Spain	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do	India (Madras)	500 pounds.
Cantar	Morocco	113 pounds.
Do	Syria (Damascus)	575 pounds.
Do	Turkey	124.7036 pounds.
Cantaro (cantar)	Malta	175 pounds.
Carga	Mexico and Salvador	300 pounds.
Catty	China	1.333⅓ (1⅓) pounds.
Do*	Japan	1.31 pounds.
Do	Java, Siam, and Malacca	1.35 pounds.
Do	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do	Darmstadt	110.24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do	Nuremberg	112.43 pounds.
Do	Prussia	113.44 pounds.
Do	Sweden	93.7 pounds.
Do	Vienna	123.5 pounds.
Do	Zollverein	110.24 pounds.
Do	Double or metric	220.46 pounds.
Chih	China	14 inches.

*More frequently called "kin." Among merchants in the treaty ports it equals 1.33⅓ pounds avoirdupois.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Coyan	Sarawak	3,098 pounds.
Do	Siam (Koyan)	2,667 pounds.
Cuadra	Argentine Republic	4.2 acres.
Do	Paraguay	78.9 yards.
Do	Paraguay (square)	8.077 square feet.
Do	Uruguay	Nearly 2 acres.
Cubic meter	Metric	35.3 cubic feet.
Cwt. (hundredweight)	British	112 pounds.
Dessiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	Half ounce.
Egyptian weights and measures	(*See* CONSULAR REPORTS No. 144.)	
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.
Do	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail (raisins)	Spain	50 pounds.
Frasco	Argentine Republic	2.5096 quarts.
Do	Mexico	2.5 quarts.
Frasila	Zanzibar	35 pounds.
Fuder	Luxemburg	264.17 gallons.
Garnice	Russian Poland	0.88 gallon.
Gram	Metric	15.432 grains.
Hectare	do	2.471 acres.
Hectoliter:		
Dry	do	2.838 bushels.
Liquid	do	26.417 gallons.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	6 feet.
Kilogram (kilo)	Metric	2.2046 pounds.
Kilometer	do	0.621376 mile.
Klafter	Russia	216 cubic feet.
Koku	Japan	4.9629 bushels.
Korree	Russia	3.5 bushels.
Kwan	Japan	8.28 pounds.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,480 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	113⅜ bushels.
Do	Spain (salt)	4,760 pounds.
League (land)	Paraguay	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Castilian	7,100 grains (troy).
Do	Argentine Republic	1.0127 pounds.
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01465 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.
Liter	Metric	1.0567 quarts.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1⅘ acres.
Do	Nicaragua and Salvador	1.727 acres.
Marc	Bolivia	0.507 pound.
Maund	India	82⅔ pounds.
Meter	Metric	39.37 inches.
Mil	Denmark	4.68 miles.
Do	Denmark (geographical)	4.61 miles.
Milla	Nicaragua and Honduras	1.1493 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.84 pounds.
Do	Hungary	3.0817 pounds.
Do	Turkey	2.85418 pounds.
Do	Hungary and Wallachia	2.5 pints.
Pic	Egypt	21¼ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133⅓ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands (hemp)	139.45 pounds.
Do	Philippine Islands (sugar)	140 pounds.
Pie	Argentine Republic	0.9478 foot.
Do	Castile	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentine Republic	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile, Chile, Mexico, and Peru	101.61 pounds.
Do	Greece	123.2 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Do	Metric	220.46 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5¼ pounds.
Sagen	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	0.02451 acres.
Seer	India	1 pound 13 ounces.
Shaku	Japan	11.9305 inches.
Sho	do	1.6 quarts.
Standard (St. Petersburg)	Lumber measure	165 cubic feet.
Stone	British	14 pounds.
Suerte	Uruguay	2,700 cuadras (see cuadra).
Sun	Japan	1.193 inches.
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.25 acre.
To	do	2 pecks.
Ton	Space measure	40 cubic feet.
Tonde (cereals)	Denmark	3.94783 bushels.
Tondeland	do	1.36 acres.
Tsubo	Japan	6 feet square.
Tsun	China	1.41 inches.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Tunna	Sweden	4.5 bushels.
Tunnland	do	1.22 acres.
Vara	Argentine Republic	34.1208 inches.
Do	Castile	0.914117 yard.
Do	Central America	32.87 inches.
Do	Chile and Peru	33.367 inches.
Do	Cuba	33.384 inches.
Do	Curaçao	33.375 inches.
Do	Mexico	33 inches.
Do	Paraguay	34 inches.
Do	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.663 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
Centigram ($\frac{1}{100}$ gram) equals 0.1543 grain.
Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
Gram equals 15.432 grains.
Decagram (10 grams) equals 0.3527 ounce.
Hectogram (100 grams) equals 3.5274 ounces.
Kilogram (1,000 grams) equals 2.2046 pounds.
Myriagram (10,000 grams) equals 22.046 pounds.
Quintal (100,000 grams) equals 220.46 pounds.
Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measures.

Milliliter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
Liter equals 0.908 quart.
Decaliter (10 liters) equals 9.08 quarts.
Hectoliter (100 liters) equals 2.838 bushels.
Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measures.

Milliliter ($\frac{1}{1000}$ liter) equals 0.0388 fluid ounce.
Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
Liter equals 1.0567 quarts.
Decaliter (10 liters) equals 2.6418 gallons.
Hectoliter (100 liters) equals 26.417 gallons.
Kiloliter (1,000 liters) equals 264.18 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.
Meter equals 39.37 inches.

Decameter (10 meters) equals 393.7 inches.
Hectometer (100 meters) equals 328 feet 1 inch.
Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
Are (100 square meters) equals 119.6 square yards.
Hectare (10,000 square meters) equals 2.471 acres.

CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

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MANUFACTURE OF ICE IN LATIN AMERICA.

In compliance with the request of a resident of Nebraska,* a Department instruction was sent, under date of August 19, 1899, to certain consular officers in Central and South America, requesting information as to the manufacture of ice in the principal cities. The answers that have been received are given below.

COSTA RICA.

Consul Caldwell writes from San José, September 16, 1899:

The ice business in Costa Rica is small. There are factories in San José, Port Limon, and Punta Arenas; and several smaller towns are supplied from these. The consumption is not great and the machinery in the plants is capable of much improvement.

I am informed that the small consumption is not due to any lack of appreciation of the advantages of ice, but rather to the fact that the opinion prevails that the ice is not pure. If a factory equipped with the latest improved machinery were erected here to furnish ice made from thoroughly distilled water, and the public become convinced of the purity of the ice, the enterprise would probably be a success and the consumption of ice be very greatly increased.

GUATEMALA.

Consul-General Beaupré, of Guatemala, September 5, 1899, writes:

There are two ice factories in operation in this city, and the demand is not equal to the capacity of the plants to produce. The use of ice is mostly confined to saloons, restaurants, and hotels; and

*To whom ADVANCE SHEETS have been sent.

it is a rare thing for a family to own a refrigerator or to use ice, except in small quantities at intervals. Owing to the elevation, the weather is never very warm, and there is no probability of ice ever being used more extensively than at present, except in proportion to the increase of population. The machinery for another plant is here, but is not used because it did not prove profitable.

In Quezaltenango, the second city of the Republic, there are no ice factories. Natural ice is obtainable and is used during a portion of the year, but the extreme elevation and cold climate of this city are sufficient to deter anyone from engaging in this business.

At Retalhuleu, the terminus of the railroad running from Champerico—a port on the Pacific—into the coffee-growing district, there are two ice factories, the ice being largely consumed on the coffee plantations. These factories are sufficient for the demand.

At Escuintla, a station on the Central Railroad, about midway between the port of San José de Guatemala, on the Pacific, and this capital, is an ice factory which supplies the country along this railroad.

On the northern, or Atlantic, side of the Republic there are no ice plants. At Puerto Barrios, the port from which the Northern Railroad starts, there are received each week by steamer from New Orleans from 13 to 15 casks of ice, packed with 600 pounds, but weighing about 400 pounds each on arrival. This is distributed along the line of this railroad at a price approximating 2 cents per pound in United States currency. At present, there is not sufficient demand at Puerto Barrios to warrant putting in an ice plant; but, should operations in the construction of the Northern Railroad be resumed, as seems probable in the near future, an ice factory either at El Rancho, Gualan, or Puerto Barrios would be profitable, for the country is extremely hot and tropical.

Aside from the probability mentioned above, I can see no favorable outlook for the establishment of ice plants or the sale of machinery for the manufacture of ice in this Republic.

HONDURAS.

Under date of September 11, 1899, Consul Johnston, of Utilla, says:

There are ice plants in operation at Belize and Puerto Cortez; there is also one at La Ceiba, not running at present. The extent of the use of ice can hardly be estimated, as it is bought from the steamers at 3 cents (1.3 cents gold) per pound. If a small ice plant, not costing too much, could be established, there would be consid-

erable demand. A plant that would have an output of from 500 pounds to 1 ton a day would be large enough, as the towns are small and the sale of ice is limited. If parties will correspond with Dr. Spencer Franklin, Utilla, they may find it to their advantage.

NICARAGUA.

Consul Donaldson writes from Managua, September 15, 1899:

An ice plant has been established in Managua since 1888, with a capacity of 2 tons per twenty-four hours. It furnishes ice to Managua, Granada, Leon, Chinandega, Corinto, and all smaller places connected by railroad and steamboats with Managua, and as far as Greytown, on the Atlantic coast. This plant is capable of producing twice the quantity of ice consumed in all these places.

Messrs. Chamorro & Pasos are now establishing an ice plant in Granada, which proposes to compete with the aforesaid. The plant was commenced three years ago, but for various reasons could not be made to work; however, better results are expected from a new boiler just received. Either plant being able to furnish more than is consumed, it is evident that one will soon have to go out of business. I am therefore inclined to discourage any further increase in the production of ice, while the country is in its present financial condition.

Both of the above-mentioned ice machines are of American origin.

SALVADOR.

Consul Jenkins, of San Salvador, September 9, 1899, says:

The city of San Salvador (population 30,000) has three plants, with a daily joint capacity of 25,000 pounds of ice, retailing at 2 cents (0.8 cent gold) per pound. The consumption does not exceed 5,000 pounds per day, owing to a lack of enterprise; there is no cold-storage establishment; meat sold on the market has been killed the previous night. There is room for a well-conducted slaughtering establishment.

The following gives the names of companies here:

C. D'Aubuisson & Cia.; Pictet system; refrigerant, sulphurous oxide gas; capacity of plant, 4,000 pounds; not in operation.

Bengoa y Cia.; confectioners; refrigerant, sulphurous oxide gas; capacity of plant, 1,000 pounds; operate principally for their own consumption.

The Fundicion Mercedes; compression system, with two independent horizontal compressors, each capable of producing 10,000 pounds; power, electricity.

Santa Ana has an estimated population of 25,000 and is supplied with two plants producing each 20,000 pounds daily; retail price, 3 cents (1.3 cents gold) per pound. A. Cirors uses the Pictet system; refrigerant, sulphurous oxide gas; capacity of plant, 2,000 pounds. The Luz Electrica Company has a compressor of German manufacture; capacity, 2,000 pounds; water power.

Sonsonate has a population of 12,000, and has two ice plants with a joint capacity of 5,000 pounds, retailing at half a cent per pound. Messrs. Candel y Cia. use as refrigerant sulphurous oxide gas; capacity, 3,000 pounds. The Luz Electrica Company has a compressor of German manufacture; capacity, 2,000 pounds. The low price of ice in Sonsonate is due to competition, the Luz Electrica having determined to control the ice business. The normal cost per pound was 5 cents (2.18 cents gold).

Ahuachapan, with a population of 10,000, has a single plant furnishing ice. The electric-lighting company uses its water power to manufacture ice in the daytime. The system is that of the Vulcan Iron Works, of San Francisco; compression; refrigerant, ammonia; capacity, 3,000 pounds; cost per pound, 12 cents (5.23 cents gold).

San Miguel has a population of 2,000 and one ice plant; Pictet system; refrigerant, sulphurous oxide gas; capacity, 500 pounds; retail price, 12 cents per pound.

The water power in Salvador is very good.

Salvador is the only Republic of the five in Central America that is paying silver, and it is a problem as to how long it can withstand the issue of forced currency adopted by its neighbors. It is passing through a financial crisis, brought about by numerous causes, chief being the fall in price of coffee in the last two years.

ARGENTINE REPUBLIC.

Consul Mayer writes from Buenos Ayres, September 25, 1899, that there is at present no chance for machinery at that place. Ice is manufactured in abundance, and from three to four ice machines are now for sale in the market.

Consul Ayers, of Rosario, September 21, 1899, reports:

There are five quite extensive breweries in Rosario, with plants for the manufacture of artificial ice for their own use, and a system of delivery wagons, quite similar to ours in the United States, for the supply of the product to consumers. Besides the breweries, there are two independent ice plants, whereby competition is created, the price to the consumer kept within a reasonable limit, and,

as a consequence, the consumption of this artificial ice during the long heated term is rendered considerable.

I think the ground in this direction fully occupied here, and would not counsel the establishment of a new plant in Rosario.

BOLIVIA.

Under date of October 20, 1899, Vice-Consul Zalles, of La Paz, writes that natural ice can be obtained at extremely low rates the year round, being brought by Indians from the slopes of the mountain Huayna Potosi. He knows of no ice plant in Bolivia, and is positive there would be no profit in such an enterprise.

BRAZIL.

Consul Furniss, of Bahia, October 5, 1899, says:

Ice making was commenced in Bahia several years ago by a Brazilian company; but, as there was no demand for the product, the manufacture was abandoned.

About three years ago, a German purchased a second-hand ice machine at Pernambuco, moved it here, and commenced business; this has since been continued, though not always at a profit.

The machine in present use was made in Germany about ten years ago. It is capable of producing 3 tons of ice every twenty-four hours, but it seldom manufactures half that amount.

The factory is situated along the sea front, on a narrow street of the lower city, in the region of the coal deposits. It obtains its water from the city water supply; but during the period from January to July of this year, when, on account of the drought, there was no water flowing through the city mains, it purchased its water from springs, etc., near the city.

The ice is made in blocks about 3 feet long and 5 inches square, a block weighing 10 kilograms (22.046 pounds). It is sold at present for 300 reis (4½ cents) per kilogram (2.2046 pounds), and is delivered at the door of the consumer from carts, which make one trip a day. It is also to be had at all hours of the day from three desig nated depots, situated in or near the resident district of the city.

I am unable to supply figures relative to the consumption of ice, but I have ascertained that it is very limited, and that the largest consumer never takes 100 pounds a day. Its use is confined almost entirely to the two hotels, four foreign boarding houses, half a dozen drink shops patronized by the foreign population, two clubs, and a few foreign families. It is never used to preserve food, but only to cool drinks, either in the bottle or when concocted separately.

Butcher shops have no need for ice. All cattle are killed in the afternoon at the Government slaughterhouse, and the meat is distributed the same day to the retail dealer, who hangs it up in his tile-lined shop, which has wrought-iron doors and windows, so that air may freely circulate. As it is never hot here at night and the meat is cut up and sold at retail the next morning, it is still fresh and without the least bit of taint or deterioration when prepared by the cook for 7 o'clock dinner, or more than twenty-four hours after butchering.

The local sanitary laws require that all meat or cattle killed one day shall be sold before noon next day, and, as all shops are daily inspected, just enough is killed to supply ordinary daily demands.

Grocers and other venders sell nothing that would deteriorate on account of lack of refrigeration. They deal only in foreign preserved butter and lard; all chickens and other fowls are dressed by the purchasers, while of fresh fish, which is hawked around the streets, there is not enough for daily consumption and consequently no necessity for ice in this line.

Soda-water fountains are unknown here; ice cream is a luxury very seldom indulged in, and even when used it is always made to order; while the little water ice used by the whole city would not consume anywhere near 100 pounds of ice a day in its manufacture.

Water for drinking is cooled in porous receptacles called "moringues," which are placed in the air, the cooling being done by evaporation. Everyone has a number of these, and they make the water agreeable for drinking purposes; so that even Americans soon forego ice water, which is an unknown thing to the natives.

As there are so few uses for ice here, and I am reliably informed that the demand for private consumption does not materially increase, I am inclined to believe that the outlook for the establishment of a new factory or the sale of new machines is not very flattering. Perhaps, with more modern machinery, independent water supply, lessened cost of production, and the adoption of our business methods, a plant would pay better and ice become more popular; but the fact remains that one could never hope for a large consumption in proportion to population, as compared with our cities, because the average Brazilian does not care for cold drinks.

Consul Kenneday sends the following from Para, October 3, 1899:

There are two ice factories in operation here, the apparatus being of United States origin. The present charges are not so high, as competition has become sharp. The price has been cut in half, bringing the product within reach of the laboring class. A further

reduction is confidently predicted, immediately upon the completion of the third ice factory, which is now being erected. This field of industry, however, is in its infancy.

There is plenty of money throughout northern Brazil. Para is a city of great thrift and enterprise, and is enjoying prosperity. The demand for American products continues to increase steadily.

Under date of September 25, 1899, Vice-Consul Krause, of Pernambuco, says:

There is one ice factory in this city; the consumption of ice here is from half a ton to 1 ton per day. There were formerly two factories here, one of which failed about two years ago. Ice is sold at present at 2 cents per pound, and is of good quality. When both factories were in existence, ice was sold for half a cent per pound. I do not think there is a promising outlook for the establishment of ice plants, or the sale of machinery for the wholesale manufacture of ice in this city or district.

CHILE.

Consul Merriam writes from Iquique, October 28, 1899:

There is but one factory in this city for the manufacture of ice. The machine was made in Germany. Its capacity is 84 Spanish quintals (8,538 pounds) per day. During four months in the year, the output is from 40 to 50 quintals (4,064 pounds to 5,080 pounds); during the rest of the year, it does not exceed 30 quintals (3,049 pounds), and sometimes runs as low as 20 quintals.

This machine is capable of producing an amount far in excess of the demand.

Consul Caples, of Valparaiso, October 14, 1899, says:

Almost all the ice used in this district is manufactured by the breweries and bottling establishments; farther north, at Tocopilla, it is made by sea-water-condensing companies. It is almost impossible to approximate the quantity consumed, but it is large in proportion to the number of inhabitants, particularly in the central and northern portions of the district. It is used in breweries, bottling establishments, hospitals, hotels, saloons, and families. An abundance of ice is produced, and, in my opinion, additional ice-manufacturing establishments would have to meet serious competition. Existing factories have extensive plants, more than sufficient

(as I am reliably informed) to supply the demand, and the establishment of other plants could scarcely be recommended.

Ice is sold at Valparaiso and Santiago at 10 cents in Chilean currency per kilogram retail, and wholesale at 5 cents per kilogram, which would be about 1½ cents in United States currency per pound retail and three-fourths of a cent wholesale.

COLOMBIA.

Consul Shaw sends the following, dated Barranquilla, September 22, 1899:

There is in this consular district but one ice factory. This plant is located at Barranquilla, a city with a population estimated at between 40,000 and 50,000. The proprietor, Mr. Louis G. Pochet, holds a concession from the Department of Bolivar, which gives him the exclusive right to manufacture and sell ice in the Province of Barranquilla.

The plant has a capacity of 5 tons per twenty-four hours. The machinery was imported from the United States. At present, about 1¼ tons of ice are made in twenty-four hours, and this meets the demand.

The proprietor maintains but one retail establishment. No ice is delivered.

The retail price is 7½ centavos (equivalent, at the present rate of exchange, to 1.42 cents gold) per pound. Many consumers buy as small a quantity as 1 pound. The wholesale price in quantities of 100 pounds or more is 5 centavos (0.96 cent) per pound.

Some ice is shipped to interior points on the river, and to Cienaga and Santa Marta, coast towns north and east of Barranquilla; but, owing to the slow methods of transportation, a large percentage is lost on the way, and the retail price at the points of destination is often as high as 40 centavos (7.61 cents) per pound.

There are ice factories at Bogotá, Cartagena, and Honda.

I understand that a concession granting the exclusive right to manufacture and sell ice at Cienaga and Santa Marta was given some time since by the Department of Magdalena to a gentleman at Cienaga, a town about 60 miles from Barranquilla and 21 miles from Santa Marta, the capital of the Department; and that the concessionary bound himself to furnish ice at a price not exceeding 5 centavos per pound; but he has thus far taken no actual steps to establish the business, and consequently the city of Santa Marta, with a population of about 7,000; the town of Cienaga, with a population of 12,000; and Pueblo Viejo, with a population of about 1,000—three points

within a radius of 11 miles—are practically without ice, except such small quantities as are shipped from Barranquilla, as aforesaid.

It is claimed that the concessionary at Cienaga has allowed his rights to lapse. This, of course, would require an investigation through the Department of Magdalena. It is probable that an ice plant will be established either at Cienaga or Santa Marta in the near future. One obstacle at present in the way is the great fluctuation in the value of Colombian paper currency. If the concession is secured, it should grant to the concessionary the right to regulate the price at which the product may be sold, according to the gold value of Colombian currency.

A party who has given the matter some attention informs me, as the result of his investigation, that until the advantages of its use become better known, the consumption of ice in that section will be limited to a small proportion of the population, and that therefore it would not be profitable to manufacture ice for sale at as low a price as 5 centavos per pound. From the small quantity of ice consumed in this city, it is evident that it is used by but a limited percentage of the population. In the districts where ice plants exist, the manufacturer has a monopoly of the business, and the prices are no doubt higher than they would be if free competition were allowed. Owing to this fact, the general population will not soon become accustomed to the use of ice, and the number of plants will be limited to enterprises which have obtained Government concessions.

I know of one apparatus which has been introduced from France for the manufacture of ice for private use. Such appliances, however, owing to their cost in the first instance and the trouble attending their use, have attracted little attention.

There are about forty-two steamboats plying on the Magdalena River. They vary in size from 30 to 313 tons. During the year 1898, these boats carried about 16,500 passengers up and down the river. The larger boats carry a small supply of ice from Barranquilla, which is as a rule exhausted during the first half of the nine days' trip from Barranquilla to La Dorado. An ice plant is now being built at Honda, a point just above La Dorado, the head of navigation on the Lower Magdalena River, about 600 miles from Barranquilla, which will enable boats to secure ice for the down trip. A sufficient supply of ice for the river steamers would greatly add to the comfort of many of those who are compelled to make the long journey from the coast to the interior.

During the month of August, 1899, animals were slaughtered for meat supply at the city of Barranquilla as follows: Steers, 459; cows, 320; pigs, 122—together with a large number of goats and a small number of calves and sheep. Owing to the fact that there are

no refrigerating plants, cold-storage houses, or cooling rooms of any character in use, meat not salted within a few hours after the animal has been killed becomes unfit for use. Some of the admirable appliances used in the United States for preserving meat and provisions in warm weather ought to be introduced. I believe their use would prove advantageous from an economical standpoint, to say nothing of their desirability from a hygienic and sanitary point of view. As appears from the records of the custom-house at this port, during the year ended June 30, 1898, ice machinery and supplies for same were imported as follows:

From—	Packages.	Weight.	
		Kilograms.	*Pounds.*
United States	22	11,772	25,952
France	1	167	368
Total	23	11,939	26,320

It is impossible to state just how much additional machinery, apparatus, and supplies for the manufacture of ice were introduced under such general heads as machinery, drugs, etc.

The import duty on ice is 1 centavo, plus 20 per cent plus 25 per cent, or 1½ centavos (0.28 cent in United States gold), per kilogram of 2.2046 pounds. The duties on apparatus and supplies for an ice plant will depend upon the classification of the articles used. Ice machinery and iron or steel fittings for same, not exceeding 1,000 kilograms (2,204.6 pounds) in weight, are included in fourth class and pay 5 centavos, plus 20 per cent plus 25 per cent, per kilogram. Ice machinery, including iron and steel fittings for same, exceeding 1,000 kilograms in weight, is included in second class and pays 1 centavo, plus 20 per cent plus 25 per cent, per kilogram. Steam pumps, when accompanying the machine, are included in the class in which the machine belongs. Steam pumps alone and fittings for same, not exceeding 1,000 kilograms in weight, are included in fourth class and pay 5 centavos, plus 20 per cent plus 25 per cent, per kilogram. Steam pumps alone and fittings for same, exceeding 1,000 kilograms, are included in second class and pay 1 centavo, plus 20 per cent plus 25 per cent, per kilogram. Iron pipes and accessories shipped alone are included in fourth class and pay 5 centavos, plus 20 per cent plus 25 per cent, per kilogram. Substances such as ammonia, for the manufacture of ice, pay a duty of half a centavo, plus 20 per cent plus 25 per cent, per kilogram. Drugs in general, except those specially classified, are included in seventh class and pay a duty of 30 centavos, plus 20 per cent plus 25 per cent, per kilogram. At the present rate of exchange—*i. e.*, 425

per cent premium for United States gold—the Colombian paper peso is worth 19.04 cents. Colombian import duties are payable in Colombian paper currency at its face value.

Attention is called to the fact that, owing to the dangerous navigation at the mouth of the Magdalena River, no ocean steamers and but few sailing vessels come to the port of Barranquilla; and merchandise for this city is discharged from vessels at Puerto Colombia (Savanilla), and must be transferred by railroad a distance of 17½ miles to the custom-house at Barranquilla. The freight charges depend upon the classification of the article and fluctuate according to the rise or fall of exchange. As an illustration of the present railroad charges on freight for Barranquilla, I give the rates on the following articles: Ice machinery, boilers, and steam machinery, 12.67 pesos ($2.41) per ton of 1,000 kilograms (2,204.6 pounds); iron pipe, 8.20 pesos ($1.56) per ton of 1,000 kilograms. On explosives and inflammable substances, a higher rate is charged: Ammonia, 8.20 pesos per ton of 1,000 kilograms; drugs not specially classified, 12.67 pesos per ton of 1,000 kilograms. Ice would pay 8.20 pesos per ton of 1,000 kilograms. On freight destined to interior points, the railroad charges a higher rate. A more detailed report of the railroad company's freight classification would extend this report beyond reasonable limits. Intending shippers should fully investigate the same.

Consul Madrigal writes from Cartagena, September 5, 1899:

There is one small ice factory in this city, capable of putting out 3½ tons in twenty-four hours; but the consumption is so small that only half a ton is used in the summer months and 700 pounds in winter. This establishment is owned by Mr. R. C. Walters.

It will be seen that there is no opening here for the establishment of ice plants or the sale of ice machinery.

Vice and Deputy Consul Cobbs writes from Colon, September 5, 1899:

There is no town except Colon in my consular district that would consume a sufficient quantity of ice to justify the erection of a plant; and, as the Panama Ice Company has a concession from the Colombian Government for the exclusive manufacture of ice in the Department of Panama and furnishes Colon with the same by the daily train which connects the two towns, I consider the outlook for the establishment of an ice plant here anything but favorable.

Vice-Consul-General Gudger, of Panama, September 26, says:

The right to manufacture ice in this Department is sold by the Government to the highest bidder. The concession is owned at present by a company in Bogotá, and the ice is manufactured in Panama by a plant which has a capacity of about 10 tons per day. The consumption of ice here is not very great, on account of the price—5 cents per pound.

ECUADOR.

The following, dated October 25, 1899, has been received from Consul-General De Leon, of Guayaquil:

There are no ice factories in Ecuador, except in Guayaquil, where there are three, two small and one large; only one is running, having arranged with the others to cease manufacture.

The capacity of this factory largely exceeds the demand. Most of the product is used by its owners in their brewery. These people consume little ice; ice water is regarded as unhealthy. Claret and other wines are drunk by the better class; chicha, guarapo, and mayorca by the poorer.

Ice retails at 4½ cents gold. Perhaps 2 or 3 tons per day are consumed by this city of 50,000 people. At Quito, the only city of any size in the north, no factory exists; the little ice obtained comes from Chimborazo.

There is no field either for the establishment of plants or for the sale of machinery in the line under consideration.

THE GUIANAS.

Consul Moulton writes from Demerara, September 14, 1899:

Plants for the manufacture of ice are established and in operation in this city, in Paramaribo, Dutch Guiana, and in Cayenne, French Guiana. Their capacity is sufficient to supply the requirements of the people residing in the respective localities.

About 12 tons of ice per day are annually consumed in Georgetown and other adjacent towns of this colony. The artificial-ice plant which was purchased in the United States seven years ago furnishes half that amount, and two natural-ice concerns which get their supply regularly from the United States yield the other half. Rain water is mostly used for drinking, for culinary purposes, and for the manufacture of ice, because of a prejudice against other available water.

Many prefer natural ice, as it hardens and renders the soft rain water in which it is used more palatable. About 5 tons per day of

artificial ice are consumed in Paramaribo and about 4 tons in Cayenne. It is sold in those cities at 2 cents per pound. In this city, it is delivered to consumers at half a cent per pound.

Seventy miles down the east coast from Georgetown is the port of New Amsterdam, with a population of 6,000. Thirty thousand dollars has been recently voted by that municipality for an electric-light plant, which will be purchased in the United States. They are supplied with ice from Georgetown, which sells there at 2 cents per pound. Communication is now by water. In a few months, a railway will connect the two places. I am satisfied that a small plant established there would be a profitable investment. It will not be done unless by outside capital, which would also have to conduct the business.

With this exception, the outlook at this time for the establishment of plants or the sale of ice machinery is unfavorable.

PERU.

Consul Dickey, of Callao, November 29, 1899, says:

There are two factories for the manufacture of ice in Lima and five others in the coast and interior towns of Peru. The principal plant in Lima is a very extensive and modern one. It belongs to an English corporation called the Backus & Johnston's Brewing Company, Limited, and I am told that it can manufacture twice as much ice as is consumed in Callao, Lima, and the surrounding country. The machinery for this plant was, I am informed, imported from the United States, and cost $35,000 gold.

Ice is extensively consumed here in summer, selling at from 3 to 5 cents gold per kilogram (2.2046 pounds) and paying a tax of 1 cent per kilogram.

In my opinion, there is at present no outlook whatever for the establishment of ice plants or the sale of machinery for the manufacture of ice in Peru.

URUGUAY.

Under date of October 6, 1899, Consul Swalm writes from Montevideo:

An excellent ice plant is in operation here, controlled by the Consolidated Breweries; it meets the demand fully, and is ready to extend its machinery as the market may warrant. The plant (German) is modern in every way, and the product first class. In my opinion, there is no opening here for new plants or machinery therefor. The use of ice is very far from being general; in fact, there is

a deep prejudice against cold drinks or general food refrigeration as it is known in the United States. Fresh meat seldom taints, and the necessity for the refrigerator does not appear. Ice is sold at retail, delivered, at 4 cents the kilogram (2.2046 pounds) for domestic use, and 2 cents when taken for the use of restaurants by 50 or 100 kilograms. Ice is made at Paysandu, but its use will never become general, the cost to the consumer and the common prejudice against its employment preventing any great demand. For ships' use, ice costs $20* per ton at shore side; $30 per ton put on board—boxes to be returned.

VENEZUELA.

Consul Goldschmidt sends the following from La Guayra, September 7, 1899:

Ice is manufactured by three different concerns in Venezuela—one in Caracas, one in Puerto Cabello, and one in Maracaibo. The first has a monopoly granted by the Government a few years ago, by which no other ice is permitted to be manufactured for sale or to be sold in the district of Caracas, which covers La Guayra. By the tariff which went into effect September 1, a duty of about 12½ cents per kilogram is levied on ice imported into this country.

The ice manufactured in Caracas is of very inferior quality, coming in pieces about 20 inches long, 5 inches wide, and 3 inches thick. The center is only half frozen, leaving a ridge having the density of frozen snow. This and the fact that the pieces are so thin cause the ice to melt quickly. Ice of this kind is retailed here at 4 cents per pound; it is consequently a luxury which few people can afford.

From 1 to 3 pounds are usually bought by the better families for breakfast and dinner. Such a thing as an ice chest is almost unknown.

People, as a rule, are not fond of iced drinks, one of the reasons being an exaggerated fear of harm resulting from their use.

Another reason for the small demand for ice is the fact that victuals, meats, etc., are not kept over night, as in the United States, but are daily bought in the market for immediate use. Such a thing as keeping meat in a refrigerator is out of the question; what is not used the same day it is purchased generally has to be thrown away. Consequently, all meats are tough.

I think that ice machines of small size would meet with sale here and in Caracas in hotels and in the better families.

Machines for the manufacture of large quantities can not be sold

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*1 Uruguayan dollar=$1.034.

here, except perhaps to the party having the monopoly for manufacture and sale in this district, to take the place of the one he has.

Electricity will probably be shortly introduced as a motive power in Caracas. Coal costs $15 or $16 a ton.

Consul Ellsworth writes from Puerto Cabello, August 31, 1899:

The brewery of Puerto Cabello manufactures all the ice consumed at this port, and the officers of that company inform me that the consumption of ice in this city (population about 17,000) is from 500 to 800 pounds daily. The steamers occasionally take 1,000 or 2,000 pounds, but this can not be counted on.

The cost of ice is 4 cents per pound. Were the price reduced, I doubt whether 500 pounds more would be sold, as the majority of the people do not care to use it.

The saloons, hotels, and the like use practically all the ice that is consumed. The brewery has fine buildings, latest improved machinery, etc., and turns out a fine quality of beer and ice.

The outlook for establishing ice plants or selling machinery for same in this district of Venezuela is not good.

HARD WOODS IN PARAGUAY.

Quebracho is one of the most profitable woods in Paraguay. It yields an extract used for tanning leather. The forests of Paraguay are full of it. The export of quebracho from this port is very considerable, going principally to Europe, though much is sent to the United States as a product of the Argentine Republic, being shipped via that country.

There is but one factory of quebracho in the entire Republic, and that is situated at Puerto Casado. As there is room for others, I have given the question of cost of erection, etc., a little study. I estimate that a factory which could put out 150 tons of extract of quebracho per month would cost about $60,000. Machinery for the same would amount to $100,000 gold; railway, oxen, carts, etc., $22,500. To produce each ton of extract (the calculation being based on 150 tons a month) would cost about $18 gold; if 300 tons per month were produced, about $10 gold.

A factory for producing 150 tons per month would need 1 manager, 1 technical director, 1 accountant, 1 timekeeper and clerk commissary, 1 chief mechanic, 3 first-class mechanics, 2 second-class mechanics, 2 greasers, 2 first-class firemen, 7 second-class

firemen, 100 ordinary workmen of different classes, with 3 foremen for direction of these workmen, who would be divided into companies of 40, to work in the factory and forest.

Each square league of land containing quebracho, as well as many other useful woods (a league being, more or less, 9 miles), will rent for from 10 to 25 per cent of the output of the forest.

The purchasing price of land here varies, but I should think forest land on an average would cost about $300 gold per league; or, if bought in large areas, $250.

Quebracho sells in Buenos Ayres for $60 per 1,000 kilograms, on an average. The freight for the transportation of the extract from the factory to Buenos Ayres is about $5 or $6 gold per ton. I estimate that the enterprise should yield 21 per cent on the capital invested.

There are also other avenues of gain in which the factory would be serviceable. There are many woods suitable for furniture, railway sleepers, etc., which could be taken out of the forest at the same time. The land owned by a company would afford ample sustenance for cattle, which are salable at good prices and whose hides are well received in European markets.

Among other trees in the unexplored territory west and north west of Paraguay are virapuita, virara, lapacho (very heavy and a fine, hard wood, much going to Buenos Ayres), jacaranda, palo santo (which derives a fragrant odor from its resin, and from which a fine extract could be made), and curupay (excellent for construction and whose bark contains tannic acid).

Quebracho and the other woods named are found in the west and north of Paraguay. In the southeastern part, 360 miles along the Alto Parana, stretches a forest full of the most precious hard woods: incienso, with an extract used as incense in the churches; curupay and lapacho, the last more abundant than in the north (from a league costing $1,000 gold, about 3,000 lapacho trees can be obtained); urudai, timbo, iviraro, incienso, piteribi, guayavi, etc. Cedar grows widely; the trees are 25 meters (82 feet) high and 4 or 5 yards in circumference. The bark is used for tanning. A league of land containing cedar would cost about $1,000 gold, or separate trees can be purchased for about $2.50 gold. Other trees sold separately cost from one-fourth to one-third of the price of the cedar.

I am told there is not a sawmill in all this section, and I am of the opinion that to erect a number would be a profitable enterprise. The lack of transportation facilities constitutes the sole drawback to the exportation of wood from this section. It would be advisable for the company undertaking it to own a boat of about 500 tons, to convey the wood to Buenos Ayres.

These two enterprises are, in my judgment, worthy of attention: The quebracho factory with a concession from the Government for fifteen years, free of taxes, and the exportation of the woods from the Alto Parana, the parties owning their own boat as above described.

JOHN N. RUFFIN,

ASUNCION, *February 2, 1900.* *Consul.*

OPENINGS FOR AMERICANS IN BRAZIL.

In reply to inquiries by a New York correspondent,* Consul-General Seeger writes from Rio de Janeiro as follows:

There would hardly be a chance for foreign teachers and professors in Brazilian schools. In the higher institutions of learning the chairs are filled by native teachers, many of whom completed their education abroad, and the text-books, books of reference, etc., are printed in the French language. The lower, or public, schools, in comparison with similar institutions in the United States or Europe, are in a rather primitive state of development.

In the larger cities of Brazil, physicians, surgeons, and especially dentists who have graduated at American universities may find a sufficiently lucrative field of work, provided they are able to submit to a very rigid examination prescribed by the laws of Brazil. This examination, both oral and written, is conducted in the Portuguese language. In nearly all large cities there are American dentists, most of whom seem to be prosperous.

I have no doubt that in the States of Minas Geraes, São Paulo, and in the three southern States Parana, Santa Catharina, and Rio Grande do Sul there is a good chance for American engineers and electricians and for persons who are willing to invest capital in engineering and electrical enterprises. But a knowledge of Portuguese, and in the southern States German, is almost essential to success.

I have recently sent detailed reports to the Department in regard to the commercial and industrial conditions of Brazil.† The southern States especially would afford a good opportunity to American commerce and enterprise in many lines if organized and systematic efforts were made, backed by sufficient capital.

At present the commercial crisis here is severe, but there is a good outlook for better prospects in the near future. In my

* To whom copy of the report has been sent.

† See ADVANCE SHEETS Nos. 560 (October 23, 1899) and 572 (November 6, 1899); CONSULAR REPORTS Nos. 231 (December, 1899) and 232 (January, 1900).

judgment, it is to be regretted that the better class of young Americans do not take more interest in the chances that present themselves in Brazil, and that they are not more desirous to acquire the linguistic attainments which would enable them to enter into competition in so lucrative a field.

PORT CHARGES IN GUADELOUPE.*

Tuesday, April 17, the new tariff of port charges in this colony goes into effect. These charges, which are additional duties more than doubling the existing ones, were voted by the local legislature December 20, 1898, as a project of a law to be submitted to the Minister of Colonies for his approbation and to take effect January 1, 1899. That date having passed, the proposed law was supposed to be dead.

But on the 8th of March, 1900, the minister forwarded the project to the President of the French Republic for his signature, which was affixed the same day.

On April 5, Governor Moracchini signed a proclamation promulgating the law in the colony. Official publication was made in the Journal Officiel of April 10, copies of which reached this city this morning, being the first notification anyone had of the change. Four days from date of publication are allowed before a law goes into effect; but April 12, 13, and 15 being legal holidays, the new law goes into force April 17.

In the subjoined table will be found equivalents for the separate charges in francs. In the first column is the equivalent at the ruling rate of exchange, ninety days' sight on Paris, 17 per cent; but in nearly all charters (see my report of August 19, 1898, printed in CONSULAR REPORTS No. 218, November, 1898†) there is a vicious clause fixing the equivalent for expenses and advances "if in francs, at 5.25 to the dollar," under which freighters and masters are compelled to accept the paper colonial francs. The second column of the table shows, therefore, the actual equivalent exacted in United States gold.

I repeat my advice to all charterers, either to entirely omit the quoted clause or insert the word "coin" before francs; and to carefully study these new port charges before chartering.

The details follow.

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*See ADVANCE SHEETS No. 707 (April 18, 1900); CONSULAR REPORTS No. 236 (May, 1900).

†Also in ADVANCE SHEETS No. 225 (September 21, 1898).

Port charges.

Vessels.	Francs.	Exchange at 17 per cent.	Actual equivalent.	Remarks.
Pilotage—in and out.				
Up to 30 tons	10.00	$1.628	$1.90	Optional.
31 to 60 tons	30.00	4.884	5.70	Do.
61 to 80 tons	60.00	9.768	11.40	Compulsory.
81 to 100 tons	78.75	12.82	14.97	Do.
101 to 150 tons	118.12	19.23	22.46	Do.
151 to 200 tons	144.37	23.50	27.45	Do.
201 to 250 tons	170.62	27.78	32.44	Do.
251 to 300 tons	196.87	32.05	37.43	Do.
301 to 350 tons	223.12	36.33	42.42	Do.
351 to 500 tons	249.57	40.63	47.44	Do.
Over 500 tons, 25 centimes (4.07 cents) for each ton in excess of 500; steamers of regular lines, 100 francs ($16.28 to $19.01); all other steamers, on tonnage of cargo shipped or discharged, at pilot's option, but not to exceed net register tonnage at 25 centimes (4.07 to 4.75 cents), less 25 per cent, minimum to be always 100 francs ($16.28 to $19.01); men-of-war, yachts, vessels in distress, no fee; pilotage fees once paid cover change of berth as often as necessary and pilotage at all other ports.				
Interpreter.				
1 ton to 60 tons	5.00	.83	.95	Compulsory, unless master speaks French.
61 to 100 tons	30.00	4.98	5.70	Do.
101 to 150 tons	35.00	5.80	6.65	Do.
151 to 200 tons	45.00	7.43	8.55	Do.
201 to 250 tons	60.00	9.96	11.40	Do.
251 to 300 tons	80.00	13.02	15.20	Do.
301 to 350 tons	105.00	17.10	19.96	Do.
351 tons and upward	135.00	21.98	25.66	Do.
Health officer.				
Up to 100 tons	7.20	1.17	1.38	
101 to 150 tons	10.80	1.76	2.05	
151 to 200 tons	14.40	2.35	2.78	
Over 200 tons	18.00	2.93	3.42	
Permit to discharge.				
For each vessel	6.00	.98	1.14	Payable by all vessels.
Clearance.				
For each clearance	7.20	1.17	1.38	
Light-house.				
Coastwise vessels.....per net register ton	.12	.023	.023	
Seagoing vessels.....do	.48	.078	.091	
Buoys and beacons.				
Coastwise vessels.....per net register ton	.12	.023	.023	
Seagoing vessels.....do	.48	.078	.091	

Water.—At the rate of 25 centimes (4.07 to 4.75 cents) per net register ton, whether taken or not; steamers and vessels at temporary anchorage, 1 franc (16.28 to 19.01 cents) per 100 liters (26.42 gallons).

GENERAL PROVISIONS.

Steamers engaged in commerce making regular trips and mail boats shall pay health, light-house, and buoy and beacon fees in proportion to the number of tons of freight they discharge in the colony. They must pay the discharge permit in every case in full. If they discharge no cargo, they shall pay the minimum of these charges: Health, 7.20 francs ($1.17 to $1.38); light-house, 12 centimes (2 to 2.3 cents) per ton; and buoys and beacons, 12 centimes (2 to 2.3 cents) per ton. Steamers not making regular trips are subject to regulations for seagoing vessels.

All vessels having paid the charges and additional taxes on navigation at port of arrival shall be exempt in other ports of the colony they may visit, either to load or to discharge, except from interpreter's fees.

LOUIS H. AYMÉ,

GUADELOUPE, *April 12, 1900.* *Consul.*

TRADE IN THE DANISH WEST INDIES.

Consul Van Horne sends from St. Thomas, April 23, 1900, custom-house returns and statement of navigation in the three months ended March 31, 1900, as follows:

Revenues of the customs of St. Thomas in the fourth quarter of the fiscal year 1899–1900 ended March 31, 1900, and the same for the corresponding period of the preceding year.

Description.	January.	February.	March.	Total.
1899.				
Import duty	$897.26	$811.41	$1,054.53	$2,763.20
Ship dues	1,666.79	1,736.92	2,382.19	5,785.90
Dues on measure briefs	.....	.16	.32	.48
Consular fees	1.68	.....	.....	1.68
Total	2,565.73	2,548.49	3,437.04	8,551.26
1900.				
Import duty	1,051.64	1,173.51	1,424.06	3,649.21
Ship dues	1,676.17	1,558.77	3,260.36	6,495.30
Dues on measure briefs	.08	.....	.....	.08
Total	2,727.89	2,732.28	4,684.42	10,144.59

First three quarters of 1899–1900 less than the first three quarters of 1898–99 ..... $6,297.97

Fourth quarter of 1899–1900 in excess of the fourth quarter of 1898–99 ... 1,593.33

1899–1900 less than 1898–99 ..... 4,704.64

Vessels entered and cleared at the custom-house of St. Thomas during the fourth quarter of the fiscal year 1899–1900 ended March 31, 1900.

Description.	Vessels entered.						
	With cargo.			Cargo transhipped.	In ballast.	Total number.	Register capacity.
	Number.	Cargo landed here.					
		Coal.	Other.				
		Tons.	*Tons.*	*Tons.*			*Tons.*
Boats	264	(*)	(*)	(*)	112	376	811
Sailing vessels:							
4 to 50 registered tons	60				35	95	1,840
50 to 100 registered tons	9		89		12	21	1,319
100 to 200 registered tons	3		365			3	489
200 to 300 registered tons	1				2	3	802
300 to 400 registered tons							
Over 400 registered tons	1				4	5	3,084
Regular steamers	65	5	1,802	2,740	31	96	141,848
Other steamers	9	25,330	7		6	15	21,860
Vessels in distress	4				1	5	3,232
Total	416	25,335	2,281	2,740	203	619	175,285

Description.	Vessels cleared.						
	With cargo.			Cargo transhipped.	In ballast.	Total number.	Register capacity.
	Number.	Cargo laden here.	Cargo imported pr. self.				
		Tons.	*Tons.*	*Tons.*			*Tons.*
Boats	63	(*)	(*)	(*)	315	378	820
Sailing vessels:							
4 to 50 registered tons	57			43	37	94	1,674
50 to 100 registered tons	14	222	57	112	9	23	1,396
100 to 200 registered tons	1	19			2	3	489
200 to 300 registered tons	1		279		2	3	802
300 to 400 registered tons							
Over 400 registered tons	1		2,053		4	5	3,032
Regular steamers	40	213		1,872	56	96	140,386
Other steamers	3		656	22	14	17	24,017
Vessels in distress	3				1	4	2,359
Total	183	454	3,045	2,049	440	623	174,975

* Unknown.

EXPORT OF PULP WOOD FROM CANADA.

Consul-General Turner writes from Ottawa, April 25, 1900:

In response to Department instruction of April 7,* I have to report that there has been no legislation prohibiting the export of pulp wood in the Provinces of Nova Scotia, British Columbia, or Quebec.

* Sent in compliance with a request for information from a Western firm, which has received ADVANCE SHEETS.

I inclose a letter from the assistant commissioner of the department of Crown lands, Province of Quebec, and copy of the order in council for the Province of Ontario.

QUEBEC, *April 17, 1900.*

SIR: In reply to your inquiry of the 12th instant, I would say that an order in council has all the force of enacted legislation, and consequently the attached copy of the order of January 18 last provides for a change in the tariff on pulp wood when exported from the Province.

As is evident, the action taken is to encourage the manufacture of raw material within the limits of the Province, where the forests, water powers, and cheap labor exist and are easily obtainable.

I have, etc.,

E. E. TACHE,
Commissioner of Crown Lands.

EXECUTIVE COUNCIL CHAMBER,
Quebec, January 18, 1900.

Present: The lieutenant-governor in council.

It is ordered that the tariff of dues on pulp wood be fixed at $1.90 per cord of 128 cubic feet, but that a reduction of $1.50 per cord be allowed when the pulp wood is manufactured in this Province.

GUSTAVE GRENIER,
Clerk of the Executive Council.

ONTARIO.

Copy of an order in council approved by his honor the lieutenant-governor, the 13th day of January, A. D. 1900.

Upon consideration of the report of the honorable the commissioner of Crown lands, dated January 10, 1900, the committee of council advise that the annexed regulations prohibiting the export of pulp wood cut on lands of the Crown under authority of timber license or permit be approved of by your honor.

Certified.

J. LONSDALE CAPREOL,
Assistant Clerk Executive Council.

(1) Every license or permit conferring authority to cut spruce or other soft wood, trees, or timber, not being pine, suitable for manufacturing pulp or paper, on the ungranted lands of the Crown, or to cut such timber reserved to the Crown on lands leased or otherwise disposed of by the Crown, which shall be issued on or after the 30th day of April, 1900, shall contain and be subject to the condition that all such timber cut under the authority or permission of such license or permit shall, except as hereinafter provided, be manufactured in Canada, that is to say, into merchantable pulp or paper, or into sawn lumber, wooden ware, utensils, or other articles of commerce or merchandise as distinguished from the said spruce or other timber in its raw or unmanufactured state; and such condition shall be kept and observed by the holder or holders of any such license or permit who shall cut or cause to be cut spruce or other soft wood, trees, or timber, not being pine, suitable for manufacturing pulp or paper, under the authority thereof, and by any other person or persons who shall cut or cause to be cut any of such wood, trees, or timber, under the authority thereof, and all such wood, trees, or timber, cut into logs or lengths or otherwise, shall be manufactured in Canada as aforesaid. It is hereby declared that the cutting of spruce or other soft wood, trees, or timber, not being pine, suitable for manufacturing pulp or paper, into cord wood or other lengths is not manufacturing the same within the meaning of this regulation.

(2) Should any holder of a timber license or permit, or any servant or agent of

such holder, or any person acting for him, or under his authority or permission, violate or refuse to keep and observe the condition mentioned in the preceding regulation, then and in such case the license or permit to cut spruce or other soft wood, trees, or timber, not being pine, on the berth, territory, lot, or lots included in the license or permit, and on which or on any part of which such timber was cut, and in respect of which or any part of which there was a breach of such regulation or a refusal to observe or keep the same, shall be suspended and held in abeyance, and shall not be reissued, nor shall a new license or permit issue unless and until so directed by the lieutenant-governor in council, and then only upon such terms and conditions as the lieutenant-governor in council may impose.

(3) The commissioner of Crown lands, his officers, servants, and agents, may do all things necessary to prevent a breach of the aforesaid condition or regulation and to secure compliance therewith, and may for such purpose take, seize, hold, and detain all logs, timber, or wood so cut as aforesaid, and which it is made to appear to the commissioner of Crown lands it is not the intention of the licensee, owner, or holder, or person in possession of to manufacture, or cause to be manufactured as aforesaid in Canada, or to dispose of to others who will have the same so manufactured in Canada, until security shall be given to Her Majesty satisfactory to the commissioner that the said condition will be kept and observed, and that such logs, timber, or wood will be manufactured in Canada as aforesaid; and in the event of the refusal on the part of the licensee, owner, or holder, or person in possession of such logs, timber, or wood, to give such security within four weeks after notice of such seizure and demand of security by or on behalf of the commissioner, then the commissioner may sell or cause to be sold such logs, timber, or wood by public auction after due advertisement to some person or persons who will give such security to Her Majesty as the commissioner may require that such logs, timber, or wood shall be manufactured in Canada. The proceeds of such logs, timber, or wood shall, after such sale and after deducting all expenses of such seizure and sale, and any sum due and owing to Her Majesty for or in respect of any timber dues, trespass dues, ground rent, or on account of the purchase of any timber or timber berths by the owner, licensee, or holder of a permit or other person who has cut or caused to be cut such logs, timber, or wood, or who is the owner or holder of the same, be paid over to the person entitled to the same.

(4) Provided, nevertheless, that nothing in the preceding regulations which requires spruce or other timber, not being pine, suitable for manufacturing pulp or paper, to be manufactured in Canada as aforesaid, shall apply to logs, timber, or wood cut and in use in Canada for fuel, building, or other purposes for which logs, timber, or wood in the unmanufactured state are or may be used.

(5) Provided, further, that these regulations shall not apply to the east half of the township of Aweres, in the district of Algoma, containing 18½ square miles.

(6) The foregoing regulations shall not come into force unless and until they shall be approved by an act of the legislature.

THE FISHERIES OF CANADA.

BAIT REFRIGERATORS.

One of the most important schemes which has occupied the attention of the Canadian Government has been inaugurated this year, viz, the establishment of refrigerators for the storage of fresh bait by the Government, in cooperation with associations of fishermen

along the coast. Season after season the complaint arises that bait is scarce precisely when it is most urgently required, yet such bait can, as a rule, be obtained in abundance earlier in the season when the men are not in need of it. A parliamentary appropriation of $25,000 enabled the department of agriculture to remedy the difficulty. Bait associations were organized and freezers constructed.

Among the more important features characterizing the fishermen's bait associations are their entirely voluntary nature, the co-operative method of conducting them, the assistance by the Dominion Government to the extent of 50 per cent of cost of building the freezers, and the payment of a proportion of the cost of operating the freezers. Each local association is required to receive, freeze, and store for every shareholder a quantity of bait up to 400 pounds for each share held and to furnish it during the fishing season as it is needed. Each fisherman pays a nominal charge for freezing and storage, and the association has the option of storing surplus bait and of disposing of it on terms agreed upon by the association.

EXPENDITURE AND REVENUE.

The total expenditure for the different fisheries' services during the fiscal year amounted to $417,601. This comprises: Fisheries proper, $95,278; fish culture, $34,522; fisheries' protective service, $105,133; miscellaneous expenses, $23,207; and $159,459 distributed as fishing bounties.

The total amount received during the same period as revenue from fishing licenses, fines, etc., is given at $85,502; this sum includes the $9,062 collected from the United States fishing vessels as fees for the modus vivendi licenses granted to their owners.

For the season 1898, the sum of $159,459 was distributed as fishing bounties to the deep-sea fishermen of the maritime provinces. Of this amount, $63,461 was divided among the crews of 784 schooners, and the balance—$95,998—was shared by 23,500 boat fishermen. For the last year, Nova Scotia received about two-thirds of the fund; Quebec, $31,795; New Brunswick, $13,746; and Prince Edward Island, $10,188.

Since its inception (1882) the total sum of $2,681,368 has been paid in such fishing bounties to the deep-sea fishermen of the above-mentioned provinces. There were 80,000 men engaged during the season of 1898 in the fishing industry, using boats, nets, and other fishing implements aggregating a value of $9,860,000.

The lobster plant alone is valued at $1,334,120. This comprises 814 canneries with 1,335,640 traps, giving employment to 16,548 persons.

VALUE OF THE FISHERIES.

The total value of the Canadian catch of fish for the year 1898 amounted to $19,667,126, a decrease of over $3,000,000 as compared with the unprecedented yield of 1897, but near the average of the previous eight years. This amount is subdivided by provinces as follows:

Province.	Value.	Increase.	Decrease.
Nova Scotia	$7,226,035	.....	$864,312
New Brunswick	3,849,357	.....	84,778
British Columbia	3,713,101	.....	2,425,764
Quebec	1,761,440	$24,429	.....
Ontario	1,443,632	143,810	.....
Prince Edward Island	1,070,606	115,257	.....
Manitoba and Northwest Territories	613,335	.....	25,061

The following table shows the relative values of the principal kinds of commercial fishes (above $100,000) in the year 1858, as compared with those of the previous year:

Kind of fish.	Value.	Increase.	Decrease.
Lobsters	$3,887,939	$402,674	.....
Salmon	3,159,306	.....	$2,520,868
Cod	2,996,583	.....	912,511
Herring	1,987,454	.....	111,623
Mackerel	694,591	97,285	.....
Trout	693,826	158,954	.....
Haddock	681,557	.....	200,926
Whitefish	622,173	.....	29,256
Sardines	429,022	72,225	.....
Smelts	420,142	.....	8,027
Hake	391,550	32,472	.....
Halibut	291,276	71,938	.....
Pickerel	235,995	.....	80,600
Oysters	217,024	36,536	.....
Sturgeon	199,160	9,182	.....
Alewives	159,424	.....	30,236
Pollock	144,708	.....	232,604
Bass	124,845	27,269	.....
Eels	118,620	.....	15,209
Shad	108,013	.....	3,560
Tom cod	102,426	.....	4,576

SEALING FLEET.

The total Bering Sea fleet comprised this year 26 vessels, representing 1,894 tons register. The total catch of the vessels was 34,454 skins, augmented by an Indian catch of 892 on the coast, making the total catch larger than that of 1898 or 1897. Of these 26 vessels, 20 operated on the British Columbian and Alaskan coasts, while these same 20 and others operated in Bering Sea and only 1 on the Asiatic side. The coast catch was 10,471 skins, the Bering

Sea catch 23,284, the Asiatic catch 699, and the Indian catch 892. Separating the Indian catch from that of the vessels proper, the following figures show the catches from the year 1889 to 1899, inclusive:

Year.	Vessels.	Catch.	Average per vessel.
		Number.	*Number.*
1889	23	29,570	1,285
1890	29	39,351	1,357
1891	51	50,437	989
1892	65	46,362	713
1893	55	67,797	1,233
1894	59	90,485	1,333
1895	61	66,962	1,097
1896	64	53,324	833
1897	41	29,392	717
1898	35	27,452	784
1899	26	34,454	1,325

A glance at the above figures will show that in the whole history of the Canadian pelagic-sealing business, the average catch per vessel of the present year has been surpassed only twice—in 1890 and 1894. The phenomenal catch of the year 1894 was principally taken on the Asiatic side; hence the high average can not be attributed to what has been called the Pribilof herd of seals. It would also appear that the Asiatic waters have ceased to be exploited by the sealers, these now confining themselves to the American water of the North Pacific Ocean.

The sealers are reported to have carefully observed their obligations under the regulations provided by the Paris award, and the year has been marked by an entire absence of any seizures or undue interference by patrolling vessels.

FELIX S. S. JOHNSON,
Commercial Agent.

STANBRIDGE, *March 20, 1900.*

MAPLE-SUGAR INDUSTRY IN QUEBEC.

The season varies in length from ten days to three weeks, and occurs between the 10th of March and the 20th of April. It is a period of exceptional activity, and every available member of the family is pressed into service, district schools being closed. Sugar "bushes" contain from 400 to 5,000 trees. Five thousand are rare, 2,000 not uncommon; but the average "bush" contains from 1,000 to 1,500 trees, which yield from 1 to 4 pounds of sugar per tree during the season. Two and one-half pounds are considered an average yield, 3 pounds good, and 4 pounds per tree exceptional. Almost every farmer in eastern Quebec is a sugar manufacturer to

the extent of from 500 to 15,000 pounds a year, or from one-fourth of a ton to 7½ tons.

There are no available data from which to make anything like an accurate estimate of the maple-sugar production of Canada; but from the facts already set forth, it will be seen at once to be of considerable importance. It is, of course, well known that a great portion of the maple sap is never reduced to sugar, but is finished as sirup; yet the yield is always estimated in pounds of sugar, a gallon of sirup being equivalent to 7 pounds of sugar.

The "tapping" of 2,000 or 3,000 trees, the insertion of spouts, and the hanging of sap buckets is very quickly accomplished by the experienced sugar makers, one man tapping from 500 to 600 trees a day. The gathering of the sap is a much more serious matter. When the "run" is on, each tree has to be visited twice a day and the buckets emptied, their contents being received by a huge barrel drawn on a sled, hauled to the sugar camp, and transferred to a large tank, from which the sap is drawn off into the evaporator. From this it emerges as sirup; and if sugar be desired, it is passed into another pan where the "sugaring off" is completed.

By a system of cross sections in the evaporating pan, with apertures alternating at either end, the sap is forced slowly along a zigzag course down the whole length of the pan from the receiving compartment, where it is thoroughly strained, to the finishing compartment, whence it is drawn off through a faucet. When the sap boils too furiously, a few drops of milk act like magic in subduing it. The skilled sugar maker can easily tell the proper consistency for sirup or sugar, but this is more accurately gauged by an hydrometer which indicates the specific gravity of the liquid. The sugar molds for 1½-pound cakes consist of a few parallel wooden bars connected by movable transverse iron sections, from which the cakes may easily be removed.

FELIX S. S. JOHNSON,
Commercial Agent.

STANBRIDGE, *April 10, 1900.*

ELECTRIC POWER FOR MONTREAL.

Announcement is made that the Shawinigan Water and Power Company will transmit the power which it has developed to Montreal. This is a matter of immense importance from the standpoint of the manufacturers and other users of electrical power, for the capacity of the works is almost unlimited and will easily place Montreal in the front rank as a center for cheap power for manufacturing purposes. It is the intention of the company to make available at Montreal the great power which is being developed at Shawinigan

Falls. The company will early in the coming summer complete the works it has had in process of construction during the past year. These works consist of a canal and the necessary flumes, etc., to develop 30,000 horsepower, and the construction is such that the amount of power can easily be increased to 75,000 horsepower. The works will be utilized during the coming summer in the delivery of power to manufacturing establishments at Shawinigan Falls; but it is not the purpose of the company to deliver the power in Montreal until the spring of 1901.

The transmission line will be a little less than 80 miles in length and will run along the Great Northern Railway, now being completed, which runs in a direct line west from Shawinigan Falls to Joliette. From this point, the transmission line will run in an air line to the end of the island of Montreal, coming into the city of Montreal by the most direct route available.

The loss in the 80-mile transmission will be reduced to a minimum by the adoption of the most improved methods of electrical transmission.

By reason of the low cost of development at Shawinigan Falls, the company will be able to deliver the power in Montreal at prices which will be advantageous to the consumer.

As yet, no attempt has been made in Montreal to put electrical power into general use, but with the advent of a large available power which may be sold at reasonable prices will come the substitution of electricity for steam power among the majority of users. At Buffalo, N. Y., where the power of Niagara Falls is delivered, electricity is fast supplanting steam power, and the conditions are less favorable at Buffalo than at Montreal, by reason of the fact that the cost of developing the power of Niagara Falls was very great, and the competition between electricity and steam necessarily much keener, by reason of the fact that steam coal is sold in Buffalo at an average price of about $1.80 per ton, whereas in Montreal the average price is $3 per ton.

FELIX S. S. JOHNSON,
Commercial Agent.

STANBRIDGE, *April 3, 1900.*

RAILWAY IMPROVEMENTS IN PRINCE EDWARD ISLAND.

The Prince Edward Island Railway is a narrow-gauge road, 210 miles in length, traversing the island from end to end. Its general offices are at Charlottetown.

A branch is to be built to the Murray Harbor district, in the southern part of the Province. This extension will be 75 miles in

length. The southern end will have a deep-water terminus for the shipping of produce to the iron mines at Sydney, Nova Scotia; also to Boston.

This addition will pass through one of the best farming districts of the island, and will tend to open a very fine country for tourists.

The building of this extension will necessitate the construction of a bridge across the Hillsborough River near Charlottetown, the distance being three-fourths of a mile. This bridge is to be built with nine stone piers and steel superstructure, for the convenience of a railway and carriage bridge. The estimated cost is $1,000,000. I am informed that tenders for the building of the bridge will be called for within three months.

DELMAR J. VAIL,
Consul.

CHARLOTTETOWN, *April 23, 1900.*

UNITED STATES TRADE WITH GREAT BRITAIN AND BRITISH COLONIES.

In 1898, the imports into British colonies from all the different countries in the world amounted in round numbers to $1,276,961,000. The exports from the British colonies to all countries reached the vast total of $1,500,858,500. Of the imports into these colonies, $403,375,000 came from Great Britain. Of the exports from these colonies, $470,094,500 went to Great Britain. In other words, of the total imports the Mother Country's share amounted to about 32 per cent. Of the total exports, the Mother Country also took about 32 per cent. Sixty-eight per cent of all the commerce of the British colonies, including the total imports and exports, is done by foreign countries and by the colonies among themselves.

England's commerce with the four most important colonies may be stated as follows:

Colony.	Imports from England.	Exports to England.
	Per cent.	*Per cent.*
India	22.2	16.6
Australia	30	37.3
British possessions in Africa	62	25.1
Canada	18.3	56.1

Unhampered by hostile tariffs, the manufacturers and merchants of other countries are permitted to do 68 per cent of the commerce of the colonies. There are indications, however, that the British Empire will eventually adopt our own system of a protective tariff. A

tendency toward federalization between Great Britain and its colonies is becoming obvious. Out of this union will grow a "zollverein" with far-reaching consequences. It will be the natural and logical outcome of the commercial development of the Empire as a unit.

Our commercial relations with England are satisfactory. There are no other two nations whose trade interests are so interwoven. We go to Belfast for cottons and linens; to Bradford for cottons, stuff goods, and yarns of every description; to Liverpool and Glasgow for cottons and wool; to Huddersfield for worsteds of every kind and quality; to London for bristles, drugs, chemicals, feathers, metals, precious stones, tins, skins, furs, etc. Nottingham supplies us with laces, and Manchester with piece goods, velvets, and thread. England comes to us for fruits and nuts, furs and skins, leather of every description, tar, turpentine, petroleum, paraffin and paraffin wax, tobacco, lumber, furniture, cotton, corn, wheat, flour, beef, pork, butter, cheese, etc.

The following table for the fiscal year 1898-99 will show what proportion of our principal products England buys of us, compared with our sales to continental Europe. What the United States sends direct to the British colonies is not included in these calculations.

Products.	To England.	To continental Europe.	Difference, compared with England.
Fruits and nuts	$3,282,490	$2,532,697	− $749,793
Furs and skins	2,083,597	575,868	− 1,507,729
Iron and steel	1,833,369	1,914,605	+ 91,236
Typewriters	1,054,060	1,099,965	+ 45,905
Leather, various kinds	15,764,894	3,239,424	−12,525,470
Shoes	525,242	178,663	− 346,579
Tar	1,176,592	1,952,066	+ 775,474
Turpentine	2,996,538	2,472,059	− 524,479
Petroleum	12,023,768	21,215,138	+ 9,191,370
Paraffin and wax	4,050,114	2,170,024	− 1,880,090
Tobacco, raw	7,821,659	12,637,647	+ 4,815,978
Lumber	7,178,648	7,427,119	− 248,471
Furniture	1,083,625	248,693	− 834,932
Cotton, raw	99,709,352	99,270,552	− 438,800
Indian corn	27,512,398	33,265,554	+ 5,753,156
Wheat	55,367,397	40,009,876	−15,357,521
Flour	41,335,609	6,426,210	−34,909,399
Beef, pork, etc.	69,586,067	43,163,574	−26,422,493
Butter	1,705,190	276,726	− 1,428,464
Cheese	2,063,409	.....	− 2,063,409

Therefore, England bought in round numbers $73,000,000, or 79 per cent more of the above-named articles than all the rest of Europe combined. If we should add minor products, the proportion would not be changed.

This report is based upon the statistics published by the Deutsche Kolonialzeitung, Bradstreet's annual report, and on a statistical abstract for the several colonies and other British possessions issued in London. They are figures which every farmer, manufacturer, and laborer in the United States should know. They are especially interesting when we consider that the English colonies are not included. The farmers of our great Central States will see at a glance what the English market means to corn, wheat, flour, beef, and pork. England buys 60 per cent of all the products which the American farmer sends abroad. I may add that Great Britain has never shown the enmity toward these products which has characterized the actions of some European nations. The cotton grower of the South is aware of the value of the English market for his products. But the manufacturer of iron and steel has the greatest interest in the British Empire as a market. His exports to England may be proportionately small, but in the colonies he is advancing with strides and bounds. He has more to hope for from these colonies in the future than from other countries. Our bridge builders are busy in India and Egypt. Our steel rails, machinery, and galvanic wires are in South Africa. British enterprise and stability in all these countries means increased opportunities and markets for our manufacturers. The more one becomes familiar with the continent of Europe, the more one is satisfied that no lasting results can be obtained here with manufactured articles. The amount of labor spent in trying to secure markets in France, Germany, and other European countries would have three and four fold results in Africa, Siberia, China, Australia, and South America. Cordial relations with Great Britain will carry us many a milestone on the way. We have thousands of laborers and skilled workmen who are dependent for their existence upon the sale of our overproduction. England is our best customer for overproduction in food stuffs. The British colonies present the greatest field for our manufactured products.

ERNEST L. HARRIS,
Consular Agent.

EIBENSTOCK, *April 10, 1900.*

GERMAN-AMERICAN TRADE MISUNDERSTANDINGS.

No one who has studied dispassionately the nature and causes of the hostility that has found expression more or less generally during recent years in the press, legislative assemblies, chambers of commerce, and various industrial and political associations in the United States and Germany can have failed to see how much of this

mutual distrust and aversion has been due to misunderstandings growing out of mere ignorance, a failure to comprehend the many customs and details of practice in respect to which the two peoples differ, radically but honestly, as the inevitable result of diverse traditions, education, and racial instincts.

Notwithstanding the millions of American citizens of German birth or lineage who inhabit the United States, notwithstanding the throngs of Americans who come to Germany year by year for purposes of travel, recreation, and study in every department of technical and scientific learning, and in spite of the vast and long-maintained commerce between the two countries, their peoples are in respect to many things strangers to each other. Intelligent Germans, men of trained judgment and observation, who, like the delegates to the recent commercial exposition at Philadelphia, go to our country and study for the first time its methods and resources, come back with opinions so changed that they are jokingly called here "Germans who have discovered America." On the other hand, every Bremen or Hamburg steamer brings to this country Americans whose ideas of Germany are derived from newly arrived emigrants, who still suppose that travel, rents, and costs of living are cheaper here than at home, and that in all branches of manufacture, except those in which hand labor is the principal element, the Fatherland is far behind the United States.

These delusions are generally harmless and lead only to rude, though often embarrassing, awakenings on the part of those who entertain them. The real injury is done when, through such ignorance or misunderstandings, business interests are imperiled, as they often are, by disagreements resulting directly from different methods of practice in which each country thinks its own system the best and only proper one. Americans—let us admit it frankly—are prone to consider our methods the most practical and best, and to think that in whatever degree those of other nations differ from our own the latter are wrong. In many cases—perhaps a majority—the American will be right in this opinion, but not in all; and his acknowledged supremacy as a master of practical results does not always entitle him to be peremptory and uncompromising.

As an example of how these differences may affect a special branch of trade, there may be cited certain variations of practice in the construction, rating, and use of electrical machinery. Three years ago, and even later, there was a promising field for American dynamos, motors, and other electrical appliances in Germany. This was because electrical development here had taken on a new impetus, business was prosperous, and the three or four great German makers of electrical machinery were working up to their highest capacity and

obtaining for their product far higher prices than then ruled for similar machinery in the United States. This led to imports of appliances, which were sometimes satisfactory, but often not so, for the reason in most cases that the buyer who ordered an American dynamo, motor, rheostat, or other apparatus from a German engineer's estimate of what was needed had different ideas on certain points from the American builder who issued the catalogue and furnished the machine. Under American practice electrical machinery is, as a rule, rated up to its maximum capacity. A 20-horsepower motor, for example, means, with us, a machine which, working under favorable conditions to its full capacity, will do that amount of work, and as such it is advertised and sold. But in this country the efficiency of such machine is measured, not by its maximum, but its average or normal daily performance, which, as machinery is used in Germany, may be 15, 20, or 25 per cent below the maximum. So that the German purchaser who needed to have a load of 20 horsepower carried at his factory day by day throughout the year and ordered a 20-horsepower American motor for that purpose would be disappointed, would feel that he had been deceived, and make complaints which the American would refuse to entertain because "the machine was a 20-horsepower motor when it left his manufactory." The real trouble is that the seller and buyer have different standards of rating for the same machine.

It should be remembered that under American practice most machinery is worked far hotter than in this country, and the same is mostly true throughout Europe. If in Germany an electrical machine becomes too heated for comfort to the naked hand, it is thought to be too warm; whereas in the United States the same machine would be worked up to within 20° or 30° of a temperature that would char cotton insulating materials. The American machine for a given capacity would be lighter and cheaper, but it would not do under European conditions the work that would be expected of it without being crowded to a point which would be considered here bad practice. This is not saying that either the American or the German method is right or wrong, but that they are different, and this difference should be mutually understood and taken into account.

Moreover, it is usual in the best-constructed electric-lighting plants in Germany, particularly detached installations for factories and for small towns and villages, to increase the voltage (pressure) of the dynamos 35 to 40 per cent above that used for lighting, for the purpose of charging accumulators. For example, if one dynamo is used in an installation where the voltage of the lamps is, say, 110, it is customary to run this dynamo for a few hours daily at 150 or

155 volts at such time when no lighting is required and charge an accumulator, and then use the accumulator for supplying the lights when only a small percentage of the lights are required, and only supply the lights directly from the dynamos when a large percentage of the capacity of the dynamo will be used. For instance, in small town lighting in winter the dynamo may be started at 1 p. m. and operated until 4.30 p. m. at 150 or 155 volts, or its full capacity, in charging an accumulator. At 4.30 p. m. it will be transferred to the lighting circuits and operated at 110 volts until 10 p. m., and will then be stopped and the accumulator will supply whatever demand there is for light during the night and the early morning. Thus the dynamo and engine only run from 1 to 10 p. m., or nine hours, but lights can be operated at any time except for the three and a half hours while the accumulator is being charged.

Where there are several dynamos, one will be used to charge the accumulators while the others are supplying the lighting demand; and in these instances the steam plant and engine and dynamo need only be operated for about six hours out of the twenty-four, and the accumulators will supply the demand at other times. The accumulator in this instance is charged during the early part of the daily run, when the demand for lighting from the dynamos is not at the maximum, and in the latter part of the daily run, when the demand is decreasing.

It frequently occurs that an isolated plant is installed and the demand for current soon exceeds the capacity of the boilers, engines, and dynamos; and then, instead of increasing these parts of the installation, an accumulator is installed. The accumulator is then charged during the time that the demand for current is small—for instance, during the night or morning—and when the maximum demand for current occurs the accumulator assists the dynamos and often supplies as much current as the dynamos; thus the maximum capacity for supply of current is doubled by the use of the accumulator. This accumulator practice is now sometimes met with in the United States, but in Germany it is found almost everywhere in small installations.

Now, when a dynamo is purchased in Europe for 110 volts, the purchaser generally expects that it will be capable of operating at 160 volts, or at least that if he increases the speed it will operate satisfactorily at the higher voltage, and this is generally the case; but American dynamos, not being built for these conditions, will generally not give the higher voltage without increased speed, and then, when the speed is increased so as to obtain the higher voltage, they will frequently at this higher speed not operate satisfactorily at the low voltage, but will spark or regulate badly. When the

American manufacturer understands the conditions generally required to be fulfilled in Germany, he will supply a satisfactory dynamo from the German standpoint; but the information is not generally conveyed in the order which he receives and for which he supplies a standard machine from the standpoint of American practice.

Again, in respect to rheostats, which are used here quite differently from the practice at home. In the United States, it is customary to start motors quickly and to move the lever of the rheostat over from the starting to the full-speed position in about fifteen seconds. Many American rheostats that have been sent to Germany are marked to the effect that they will only carry the current for fifteen seconds. This is, however, too quick a start from the German standpoint, and, as heat is rapidly accumulating in the rheostat until the lever is in the final position, if it is not designed to carry the current for this prolonged time it will burn out before the lever reaches the position of full transmission. The rating of rheostats in Germany differs materially from the standards employed in the United States, and I have seen a large stock of these instruments of standard American manufacture which had been thrown back upon the Berlin dealer's hands by customers who had ordered them according to German ratings and found on trial that they fell short of the desired efficiency.

Another fact that detracts from the selling value of American electrical machinery in Germany is the plain, simple style in which it is outwardly finished. In our country, makers are generally content to put a rheostat into a plain, black iron casing and to paint a motor or dynamo in dull lead color, which is laid on the rough casting just as it comes from the sand. In Germany, on the contrary, the rheostat is mounted between polished plates of marble or basalt, with handsome brass mountings, so that it becomes an ornament to the establishment. The casings of motors and the heavy visible parts of dynamos are rubbed and filed clean and smooth and the cast surface smeared with mastic, which is baked to the hardness of enamel, then smoothed, painted, striped, and varnished until it becomes decorative. No one, of course, supposes that the machine is any better for this outward furbishing; but it becomes thereby more attractive and presentable as an article of merchandise, and above all, when offered for sale here, it satisfies the German idea of how such a fixture ought to look.

Finally, the American system of price lists with discounts—which in some cases go as high as 60 per cent—is very generally misunderstood in Germany. Catalogues and price lists subject to such discounts and with a footnote, "Prices subject to change without

notice," are scattered through this country and do almost no good, because they are inexact and to most merchants incomprehensible and confusing. Firms and companies in Germany which are devoted to export trade have generally a good working knowledge of foreign languages, weights, measures, and values; but this is not true of importers, who are the parties whom American exporters seek to reach.

Nowhere in the world are such elaborate, costly, and beautifully illustrated trade catalogues issued as in the United States; but if the text shows only in English the dimensions of an article in inches, its weight in pounds, its value in dollars, with the fact that it is offered at "33⅓ and 10 and 5 per cent from list, f. o. b. New York," it presents a problem before which the European merchant, trained to metric weights and measures, continental currencies, and plainly stated prices, recoils in despair.

SOME GENERAL PRINCIPLES THAT APPLY TO TRADE WITH GERMANY.

While it is difficult in a report of this character to answer collectively the flood of letters which come to the principal consulates in Germany asking for definite information on subjects which have been written threadbare in consular reports during the past ten years, it may be worth while to repeat concisely a few of the fundamental axioms which should be understood and observed by all American exporters who seek to form connections in this country. Such an exporter should decide in his own mind whether he really wants an export trade to Germany and is willing to undergo the expense and effort of obtaining it and maintaining it when acquired, even in face of good prices and an active market at home. If he only wants it as a temporary dumping place for shopworn or surplus stock during a period of dull home markets, the experiment had best be left untried. The reputation of American bicycles in Germany, which was built up to the highest standard by a few first-class makers, was ruined by the cheap, low-grade wheels gathered from bankrupt stocks in the United States and exported by brokers who never expected to place another order in Germany.

The first point having been settled, it must be realized that Germany is in the highest degree an industrial nation, where nearly everything needed by the people is manufactured and competition is active and sharp. American exports of manufactures have hitherto gone largely to countries which, like Central and South America, Australia, and China, have no important home industry, or to Great Britain, where there is little or no import duty, the English language is spoken, and the trade, if possible at all, is comparatively easy for Americans. The tactics learned in such trade will not answer in

Germany, where wholly different conditions exist and where rivals are already in the field who know and will cater to the special ideas and requirements of the consumers.

Secondly, the would-be exporter must remember that it is the seller, not the buyer, who has to make the effort. Every mail brings to our consulates in Germany letters from manufacturers or merchants announcing that they have certain goods for sale. A catalogue of the usual type is inclosed and the consul requested to see the firms in his district who deal in such goods and induce them to open negotiations with the author of the letter and catalogue. Having stated the superiority of his goods, he proposes that the buyer shall come to him; and in this way he seeks to test the real efficiency of the consular service in promoting trade.

Having learned by experience that most goods are now sold in foreign markets by agents who are either located there or go there for that purpose—that the seller seeks the buyer, and not conversely—the next point would be to ascertain whether there is a reasonable probability that a given article or class of articles would be adapted to Germany and therefore salable here, and, if so, by which of three methods the attempt shall be made to introduce it in this country; whether through the medium of (1) a general importing house, or (2) of a special agency exclusively organized for handling American merchandise, or (3) a branch house of the exporter established abroad for that purpose.

It must be stated at the outset that the fourth method—the theoretical scheme usually adopted by the inexperienced American exporter, who imagines that German retailers or small wholesalers will order his goods by mail, pay for them f. o. b. New York, and import them by small lots to Germany at their own expense and trouble—is illusory and may as well be abandoned at the outset. It has been a blind faith in this method that prevented the German market from being supplied with American shoes at a time when there was a ready and earnest demand for them. Traveling salesmen came with samples, placed large trial orders, which sold rapidly until certain sizes and numbers were exhausted, and the retailer tried to replenish his stock by assortment orders on the factory in the United States. Then the trouble began. By the time the trial stock had been depleted and the order reached the factory, the sizes and qualities needed were not in stock and had to be specially made. The manufacturer was not impressed by the small order and took his time about filling it. By the time the goods were made, shipped, and had passed the custom-house over here, the season was past, the retailer and his customers tired of waiting for shoes ordered three months ago, and so the whole transaction, which should have

laid the foundation for a permanent trade, collapsed. Never anywhere in Germany was a wholesale depot or stock of American shoes established—as has been so successfully done in London, Edinburgh, and Paris—from which the German retailer could replenish his stock by frequent orders that could be filled within a week or fortnight.

Returning to the three methods above indicated, the choice of either of them will depend upon various circumstances: the nature of the merchandise itself, whether a novelty or goods of standard utility and acceptance, whether it is likely to appeal to a large or only a small class of consumers, whether it is patented or not, and whether it can be best imported here in a complete and finished state or "knocked down" and requiring to be set up and finished after arrival.

The great successes have been made by exporters like the Singer Sewing Machine Company, the makers of cash registers, typewriters, graphophones and phonographs, and certain bicycle firms who have established in European countries their own branch houses and conducted their trade here by practically the same methods as at home. Others have succeeded—and this is particularly true of machinery and patented articles—by giving their trade exclusively to large, well-known, and responsible foreign importing firms, who sell to the jobbing and retail trade by traveling salesmen and sample and who have trade connections already established throughout the country in which they are located.

When this plan is adopted, it is important that there should be between exporter and importer absolute faith and fidelity to agreements. If an American exporter contracts to give a German firm exclusive control of his goods in this country, he should abide by that compact. Violations of such contracts have been not infrequent and have injured to some extent the reputation of our merchants. For example, a manufacturer of files sent out a representative who frequently gave "sole agencies" to two or three firms in the same town, this distinction being in each case accorded on the condition that the firm should give an immediate order and agree to keep a full line of the files in stock. This was done, the files arrived and were paid for, and then the drummers of the several "sole" agents took the road, each proclaiming himself the exclusive purveyor of that special brand of files. The truth soon became known, and the salesmen, being unable to all sell to retail dealers, went into factories and machine shops, sold files at factory prices by the dozen, half dozen, or single piece—anything to get rid of their stock—with the result that the general retail price of American files was broken down and the reputation of the manufacturer as a business man permanently damaged.

Similarly, a high-class German importing house held the exclusive agency in this country for a superior brand of American twist drills and built up a large trade. The reputation of the drill being thus fully established, another German house, learning from the import statistics what a large quantity had been imported and sold during the previous year, went to the manufacturer and by contracting to take a large number annually for a number of years secured the exclusive agency over the head of the original importer, who had been working under a contract renewed from year to year. As a result, the latter, no longer able to get the American drill, took up the best German-made drill that he could find, substituted it for the imported article, and held his trade, with the effect that the German drill went into general use on the reputation built up by the American implement. No doubt, the American maker had the right to transfer his German business to a new agent if he chose to do so, but—did it pay?

On the other hand, there have been cases wherein German importers have obtained the exclusive control of an American article and used it for no other purpose than to keep the article out of other hands while they supplied the market with a similar article of home or other manufacture.

Contracts of this kind should therefore be made with great discretion and only after a capable partner or agent of the American firm has visited this country, studied the market and all competing goods of the same class, and satisfied himself as to the character and responsibility of the German importer and the probable requirements of the market. Having satisfied himself on these points, the American exporter owes to his German agent good faith, prompt and energetic cooperation, and the fullest, most explicit information concerning the nature, weight, dimensions, qualities, and uses of the goods, whether they can be shipped in parts, chief materials of construction—everything, in fact, that can aid the importer in passing them through the custom-house promptly and to the best advantage and afterwards explaining them to purchasers. All this should be told at the outset, not left to be explained afterwards in response to inquiries.

If there is offered a discount from a printed price list, make the rate of discount direct and simple, so that there will be but one net percentage to be deducted. Costs of packing had best be included in the price of the merchandise. If the article is patented, give dates and full particulars concerning the patents. If it has ever been previously sold in Germany, state where and by whom such sales were made. It should be remembered that ocean freights, unlike those by rail, are determined not so much by weight as by the

cubic space which the freight occupies, and this should be condensed as much as possible. The failure to remove detachable parts from a machine, wheels from a carriage, the top and feet from a piece of furniture where this is possible, and to pack these parts inside, often increases the size of the box or crate and thereby needlessly augments the cost of sea freight. Cases are frequent where this careless packing of goods to be handled on a small profit has, through superfluous bulk and cost of freight, destroyed the profit of the transaction to the importer.

Ocean freights are often the most variable element in foreign trade, and the rates from an American port to Hamburg, Bremen, or Rotterdam are far more easily ascertained in the United States than here. Whenever it is practicable, the American exporter should give the price of his goods c. i. f. (costs, insurance, and freight) to one of the above-named ports, instead of f. o. b. (free on board) at New York, Baltimore, or other American port. This eliminates from the importers' calculations the uncertain element of ocean freight (which the exporter will naturally add to the cost of the goods), and knowing the German duty and freight by rail, he can therefore estimate exactly what the merchandise will cost delivered at his store. It may seem trivial to explain conditions so primary and self-evident as these, but millions of dollars' worth of trade with Europe is lost every year to the United States by neglect to recognize and comply with them. Too few of our manufacturers and even export commission houses seem to realize that goods for Germany France, and Russia can not be packed, shipped, and paid for pre cisely as they are for Memphis or Omaha.

Catalogues and descriptions of merchandise, to be of any value here, must be in German; and, if possible, prices should be in marks and weights and measures in metric units. If these can not be supplied from home, cuts and photographs for illustrations should be furnished to the agent, with a fair allowance made to him for printing and advertising. Some money must be invested to establish a new article in a market already so well supplied as Germany and dominated by native manufacturers who will make every reasonable concession to their customers.

In correspondence, care should be taken to fully prepay all letters and printed matter. Failure to do this entails the payment of penalty postage by the receiver, and this has become such a burden that many German firms refuse to receive under-paid mail matter from the United States. Not infrequently, a quarter or a third of an entire American mail to a United States consulate in Europe will consist of letters bearing a 2-cent stamp, for which must be paid 5, 10, or even 20 cents penalty before they can be delivered. The con-

sul may, and does, pay this and charge the expense in his official postage account; but private parties resent such carelessness and often refuse to pay the penalty that it entails. Moreover, hundreds of letters are received every year at United States consulates in this country asking for information and inclosing a United States postage stamp or stamped envelope, already addressed, for the reply. This, it should be hardly necessary to explain, is abortive, because United States postage stamps are not valid for use in foreign countries, and superfluous, because the Government postage allowance to consulates covers all official and business correspondence.

Consular officers are not authorized, but, on the contrary, are expressly forbidden by regulations, to report to private inquirers concerning the financial standing or commercial repute of business men or houses in their districts. Such inquiries should be made through the leading mercantile agencies in the United States, which have reciprocal working relations with similar agencies here, through which a comprehensive, trustworthy, special report can be obtained concerning any business man, firm, or company in Germany.

There remains to be repeated what has been written, said, and reiterated to the point of weariness about credits. This is the rock on which, more than all others, tentative, timid American export trade to European countries has been wrecked. Manufacturers in Germany, France, and Belgium sell their products to the local trade against thirty, sixty, or ninety days' acceptances. In Russia, they give three, six, nine, or even twelve months' credit, the price of the goods being, of course, increased so as to include interest on market values for such deferred payments. By "acceptance" in this sense is meant that the manufacturer selling goods to a merchant makes out and sends with each shipment a draft on the buyer for thirty, sixty, or ninety days, payable at a prescribed bank, usually in or near the city or town in which the buyer is located. On arrival of the goods, if they are up to sample or according to agreement, the buyer signs the acceptance, which then becomes a hard-and-fast security, which the acceptor must pay or go into bankruptcy. These acceptances may be discounted by any bank or person of good credit and standing, and when so used have practically the character of cash payments. American firms having reliable connections abroad can therefore safely avail themselves of such drafts against acceptances, which could be used by American banks in settlements with their European connections.

Hamburg, Bremen, and Cologne are the best points for wholesale agencies for the sale of grain, lumber, and raw materials generally; Berlin is the principal market for manufactured products. Mr. Robert Ganz, an American citizen, has at 21 Gänsemarkt,

Hamburg, a European bureau of American manufactures, where machinery, tools, and a large variety of other articles of American manufacture are sold on commission.

In many lines of trade, there are practically no jobbing houses in Germany, and retailers obtain their supplies directly from the manufacturers, who employ traveling salemen and give to their customers liberal discounts and credits. There is among consumers little or no prejudice in favor of home-made goods, so that the success of an imported article depends directly upon its quality and the price and terms at which it is offered to the trade.

FRANK H. MASON,
Consul-General.

BERLIN, *March 23, 1900.*

GERMANY'S TRADE WITH THE UNITED STATES.

Vice-Consul Murphy sends from Magdeburg, April 14, 1900, an extract translated from the Berlin Boersen Zeitung of April 11, as follows:

The United States consul-general in Berlin, Mr. Mason, has just published a statement of exports to the United States from the various consular districts within the Berlin jurisdiction, which deserves careful attention. The promptness with which this table was prepared is praiseworthy. The quarter ended on March 31, and eight days later the results from fourteen consulates in different parts of northern Germany were published. This shows close attention to business and deserves full recognition, for officials often work for months over such statistics before the interested public obtains the figures. We give the export values roundly:

Consulate.	1899.	1900.	Consulate.	1899.	1900.
Annaberg	$312,000	$550,000	Hanover	$242,000	$266,000
Berlin	1,441,000	1,693,000	Leipzig	1,255,000	1,634,000
Brunswick	199,000	235,000	Magdeburg	1,810,000	2,192,000
Bremen	640,000	646,000	Plauen	454,000	852,000
Breslau	256,000	327,000	Stettin	1,541,000	1,869,000
Chemnitz	1,430,000	1,523,000	Zittau	317,000	266,000
Glauchau	315,000	288,000	Total	12,873,000	18,106,000
Hamburg	2,661,000	5,765,000			

This increase is very satisfactory, and the impression made by the figures is still more striking when the comparison is extended to 1898:

First quarter of 1898 ..... $9, 128, 009
First quarter of 1899 ..... 12, 873, 200
First quarter of 1900 ..... 18, 106, 000

It accordingly appears that in two years our export to the United States has nearly doubled and is now very important. The $18,106,000 are 77,000,000 marks in three months or 308,000,000 marks ($73,304,000) in a year. This is only for northern Germany, and the figures from the consulates-general at Dresden and

Frankfort are still to be added. These will bring the total up to 600,000,000 marks ($142,800,000). How many thousands of Germans now dependent upon this trade for their support would be without bread if it were to suddenly stop! In the trade with the United States, Germany has won an important position. According to the reports of the Statistical Bureau in Washington, the United States imported in the calendar years 1897 and 1899:

From—	1897.	1899.	From—	1897.	1899.
England	$159,000,000	$142,000,000	Austria-Hungary	$7,000,000	$8,000,000
Germany	98,000,000	90,000,000	Mexico	20,000,000	25,000,000
France	67,000,000	70,000,000	Central America	9,000,000	9,000,000
Italy	20,000,000	26,000,000	Cuba	16,000,000	30,000,000
Switzerland	13,000,000	16,000,000	Brazil	66,000,000	60,000,000
Holland	14,000,000	15,000,000	Venezuela	9,000,000	6,000,000
Belgium	14,000,000	12,000,000			

Germany has accordingly surpassed all nations except England, whose insular position, richness in coal and iron, and free-trade policy give it an advantage which can not easily be overcome. Of the wares used in the United States, the most important to us is sugar, of which the importations were:

From—	Value.	From—	Value.
East India	$30,600,000	Other West Indies	$6,800,000
Hawaii	21,700,000	South America	5,500,000
Cuba	17,700,000	Africa	3,800,000
Germany	10,700,000	Austria-Hungary	2,000,000
British West Indies	5,800,000		

The amount of sugar supplied varies considerably with the crops, from 1,500,000 to 2,000,000 double centners, and we have already in good years sent the Americans as much as 100,000,000 marks' ($23,800,000) worth. This we can continue to do if we maintain peace and friendship with them. But if we force the Americans into retaliation, as our agrarians wish to do with their meat-inspection law, and thus render impossible the exportation of our sugar to the United States, we will have no other purchaser for this enormous mass of sugar. The prices will then sink to the cost of production, and perhaps even lower. As a consequence, many sugar factories and the farmers dependent thereon will become bankrupt, and a prosperous German agricultural industry will be destroyed.

No other article is of nearly so great importance, but Germany also exports wares in large quantities whose raw stuffs are first imported—for instance silks, of which the importations of the United States in 1899 amounted to $27,900,000, as follows:

From—	
France	$12,200,000
Germany	5,000,000
Switzerland	4,000,000
Japan	3,200,000
England	2,600,000

We also export to the United States wares whose raw stuffs come to us from that country, especially cotton. America imported in 1899 raw cotton, mostly

from Egypt, valued at $6,600,000; cotton stuffs valued at $8,000,000, of which England supplied three-fourths; and other cotton wares worth $28,500,000, as follows:

England	$8,400,000
Switzerland	8,100,000
Germany	7,200,000
France	4,200,000

Of the ladies' woolen dress goods imported, England supplied $2,400,000 worth; France, $1,900,000; and Germany $1,200,000.

Not to go too far into details, we will only add briefly that America buys from us in an almost equal amount chemicals, colors, cement, hides and skins, and wool; furthermore, large quantities of linen and mixed goods, laces, paper, albums, photographs, etc. The export list from Berlin alone shows about fifty different articles.

Now we come to the other side of the business—importation into Germany from the United States. The chief industries of America are agriculture and cattle raising. Some statesmen are indeed trying to make the United States a purely industrial state; but, as the laws of nature and reason oppose such development, they have not succeeded, nor can they until the necessary preliminary conditions come into existence. The export articles are accordingly mostly agricultural products—wheat, corn, cattle, meat, bacon, lard, apples and other fresh, dried, and conserved fruits. Every form of foreign competition is an abomination to our farmers, and American competition is the greatest. They would like to entirely forbid the importation of agricultural articles into Germany, and have had incredible success in this direction, owing to the fact that the Government needed their votes. Thus, for instance, the importation of living cattle from America is entirely forbidden for the alleged purpose of preventing the introduction of cattle diseases. American cattle are, however, being constantly imported into England without bringing diseases with them. For a while even the importation of meat was forbidden, as it was said to contain trichinæ and other dangers. Now the agrarians are working in an indirect way; they demand two veterinary examinations of every animal, one before and one after it is killed. Our veterinary surgeons can not, however, examine the American cattle before they are slaughtered, and, as a foreign country must not be better treated than home producers, American meat can be forbidden entry into Germany—a sly plan, upon which a strange light is thrown by the fact that the farming gentlemen wish to have the law applied, not to themselves, but to the wicked towns. When they butcher animals for use in their own households, the law provides that these veterinary inspections may be omitted.

The following table shows America's five chief export articles:

Articles.	1898.	1899.
Grain	$318,000,000	$270,000,000
Animals	41,000,000	40,000,000
Provisions	175,000,000	182,000,000
Cotton	233,000,000	192,000,000
Mineral oil	48,000,000	60,000,000
Total	815,000,000	744,000,000

Under the heading "provisions" are included beef, pork, bacon, etc.

Owing to heavy import duties in the past five years, America's importations have decreased $2,000,000, while its exportations increased $450,000,000. The Americans are systematically working to get the whole world to purchase their wares in large masses, while they themselves wish to buy little or nothing. Let us leave them

their air castles, which rough reality will soon destroy, for no one can only buy and give out money unless he also takes in money; therefore, nations which only sell are just as impossible as nations which only buy. Trade will always remain an exchange of wares, as it has been for thousands of years.

If we consider the principal nations which buy from America we find with astonishment the facts shown in the following table:

Country.	1896.	Per cent of export.
England and colonies*	$512,000,000	58
Germany	98,000,000	11.1
Canada	60,000,000	6.8
France	47,000,000	5.3
Holland	39,000,000	4.4
Belgium	27,000,000	3.1
Mexico	19,000,000	2.2
Italy	19,000,000	2.2
Brazil	14,000,000	1.6
British Australia	13,000,000	1.4

*Excluding Canada and Australia.

The figures in the second column have since changed very little, England buying more than all other countries combined.

Among the exported articles, the most important to us is cotton, as we pay the United States for it annually, according to the crop and price, 200,000,000 to 250,000,000 marks ($47,600,000 to $59,500,000). The cotton is then used in factories, its value being thus at least doubled. These cotton wares are shipped to all parts of the world, a portion thereof going to the United States. We also pay the United States about 60,000,000 marks ($16,280,000) for petroleum and 40,000,000 marks for copper. If we were to give up the former, a substitute would cost us about twice as much. Without the copper, we could not maintain our position as the world's chief producer of electrical apparatus and supplies, and we would thus lose certainly more than the 40,000,000 marks ($9,500,000). In meat, we need every year only 20,000,000 to 28,000,000 marks' ($4,760,000 to $6,664,000) worth, a mere bagatelle. A thoughtful consideration of all our interests teaches that we should maintain with America not only peace, but also friendship.

AMERICAN CATTLE AT MALTA.

While at home on leave last summer, I had several conferences with cattle dealers relative to exporting animals to Malta. Since my return, I have been following the matter up, and, as a result, I am pleased to say that it is now being seriously considered by local meat importers. In the matter of cattle, Malta has for years been trading with Odessa and Tunis. The animals used are much lighter in weight than the American. People here do not readily adopt new methods or goods, and I believe it will be some years, should American cattle come to Malta, before they will come into general use. However, I have talked with a merchant here who has seen our cattle

landed at Liverpool, and who now holds the contract for supplying the navy and army at Malta. His name is Mr. L. Apap, and his place of business is at 26 B. Strada Mercanti, Valletta, Malta. Mr. Apap tells me he would like to get American cattle for his trade here if he can secure at the right figures the average type he saw at Liverpool some years ago. He asked me for the addresses of American cattle dealers, which I was able to give him, and the result is that he is now in correspondence with them with a view to purchasing our cattle. He has not closed with any particular firm, and to those desiring to enter the field I would say that Mr. Apap's demand will be between 250 and 450 cattle per month. I have given Mr. Apap an approximate freight rate per head, and he believes that, notwithstanding the fact that he pays but £1 ($4.86) freight per head for the cattle he gets from Odessa and other ports, if he can get our cattle at low enough terms, or on nearly the same basis, the difference in freights between New York and Malta and Odessa and Malta will be well offset by reason of his being able to carve American cattle to better advantage than those he has been using. The Odessa cattle which he has dealt in have averaged from 550 to 700 pounds. His need is for much heavier cattle, in good condition.

As regards shipments of cattle, the requirements at this port are as follows:

American shippers should obtain a veterinary's certificate to the effect that the cattle are in good condition, and that for three months previous to the shipment no disease among cattle has been epidemic at the place from which the cattle come. This must be certified to by the British consular officer nearest the place of origin or at the port of shipment. The certificate must be placed in the custody of the captain of the ship carrying the cattle and be produced to the customs officers upon arrival at Malta, before the cattle will be allowed to land. Upon arrival, the cattle are weighed by the port authorities and a duty of 4s. (97 cents) per 175 pounds is imposed.

Mr. Apap desires shipments he may select to be sent "c. i. f. Malta." As to settlement, he would be willing to pay in any way that sellers might desire.

The shipment of cattle to Malta is due to our having direct communication with New York, the Mediterranean and New York Steamship Company having about a year ago added a New York–Malta–Trieste branch to its already large line running to Mediterranean ports. I am very sanguine as to there being a chance for our cattle here, but the trade must be given as favorable terms as possible on the part of our merchants, until it obtains a foothold.

JOHN H. GROUT,
Consul.

MALTA, *March 30, 1900.*

REGULATIONS OF FLOUR TRADE AT MALTA.

There seems to be a rapidly growing demand for American flour at this port. Up to within a year, about all of the flour used here was either a local product or was brought from Liverpool mills. The demand for our flour is due not a little to the fact that we now have direct communication with the United States by the Mediterranean and New York Steamship Company. Many merchants are in correspondence with our flour dealers with regard to shipments. Each steamer from New York brings good-sized orders, which, from now on, will increase in size. The Malta government seems disposed to favor the importation of wheat rather than flour, owing to there being a necessity, from a naval and military point of view, for the storage at all times of large quantities of wheat. The government runs a mill of rather ancient construction which manufactures all of the flour for naval and military purposes, and there are one or two private mills of modern build which, to a certain extent, supply flour for general use. But there is a demand for the foreign product, and the American is preferred. The last shipments from New York fell a little short, as regulations appertaining to flour were under consideration by the local government, and Maltese merchants hesitated to send even normal orders to the United States pending the settlement of the matter. The government has, however, just finished its deliberations, and the result is the ordinance quoted below. From articles 1 and 2, it will be seen that importers will have to declare whether importations of flour contain any mixture, above 5 per cent, of any substance other than the produce of pure wheat. In lieu of this declaration, the alternative is given of producing to the collector of customs a certificate signed by the shipper of the flour, showing whether it contains a mixture of any substance other than the produce of pure wheat, with a statement of what the mixture consists and the proportion of the same. Certificates from shippers must be attested by the British consular officer nearest to the place in which the certificate is signed. It was expected that the duty upon flour at this port would be raised, but, to the gratification of importers here, this was not the case.

The articles of the ordinance of interest to our exporters read:

ARTICLE 1. The importer of flour shall declare to the collector of customs whether it contains any mixture, above 5 per cent, of any substance other than the produce of pure wheat.

The importer of flour, instead of making the declaration mentioned in the preceding paragraph, may produce to the collector of customs a certificate signed by the shipper of the flour, showing whether the flour imported contains any mixture

of any substance other than the produce of pure wheat, of what the mixture consists, and the proportion of the same.

If the importer does not make the declaration referred to in the first paragraph, or if, from the certificate mentioned in the second paragraph, it results that the flour contains above 5 per cent of any substance other than the produce of pure wheat, the collector of customs shall cause the flour to be examined by an analytical chemist.

2. The certificate mentioned in the preceding article shall not be accepted whenever it emanates from a foreign country and is not attested by the British consular officer of the place in which the certificate is signed, or, in default of such consular officer, by the British consular officer of the place nearest to that in which the certificate was signed; and whenever it is not attested by the competent authority of the place in which the certificate was signed, if it has been issued at any place within the British Empire.

3. Whenever, in accordance with the provisions contained in the first article, an analysis of the flour has to be made, the collector of customs shall cause several samples to be taken from the whole consignment, shall cause them to be mixed together and divided into three parts, whereof each shall be placed in a receptacle or wrapper which shall be sealed under the office seal. The name of the importer, the marks or other indications which distinguish the consignment from which the samples shall have been taken, and the date of the importation shall be written on every receptacle or wrapper. The importer may write his name on the receptacle or wrapper and may affix his own seal.

One of the said receptacles or wrappers shall be delivered to the importer, another to the government analytical chemist for analysis, and the third shall be lodged in the custom-house.

4. Whenever the flour imported has to be analyzed, the collector of customs shall cause it to be analyzed by the government analytical chemist, without delay, and in the order in which it was imported.

5. Whenever, from the certificate of the shipper or from the report of the analytical chemist, it results that the goods imported are the produce of pure wheat without any mixture above 5 per cent, the collector of customs, before delivering the goods to the importer, shall close and seal the bags or other receptacles containing the merchandise by lead seals.

6. Whenever from the report of the analytical chemist it results that the imported flour contains a mixture of substances injurious to health, the collector of customs, before effecting the delivery, shall give notice thereof to the police, in order that it may institute the necessary proceedings, unless the importer prefer to reexport the said flour.

7. The provision of article 116 of the police laws is canceled and the following provisions are substituted therefor:

116. No one shall sell cereals that are—

(*a*) Oily, damp, mixed with darnel or extraneous mineral matter.

(*b*) Mixed with such kinds of seeds as render the flour noxious or yield products of bad flavor, unless such seeds can be separated by means of some process before the cereals are ground.

(*c*) Affected with fungous disease.

(*d*) Attacked by animal parasites or altered by processes of fermentation or otherwise decayed.

JOHN H. GROUT,

VALLETTA, *March 28, 1900.* *Consul.*

EGGS, POULTRY, AND MEAT IN GREAT BRITAIN.

M. de Loverdo has read before the Société Nationale d'Agriculture de France an article on the importation of eggs into Great Britain, of which the London Times gives, in an issue of recent date, a translation a full column in length, and in turn I use this material, condensing and adopting freely.

The importation of eggs into Great Britain last year was valued at $24,548,227, while the poultry and game figures were $3,821,633, an outlay of $28,369,860 in addition to that for the poultry and eggs produced in Great Britain.

M. de Loverdo describes the special cars in use, which are so made that chickens for this market can be fattened during the transport, one attendant being able to take care of a number of cars. Young Russian chickens bought at low prices are thus prepared for the English market and reach here alive, and the same system has been followed with success in Italy. Belgium has been fortunate enough in establishing a specialty, not only for the London market, but also in Paris, with its "petit poussin," for which restaurant keepers in both places willingly pay 48 cents apiece. They are ready for the table in six weeks, the particular breed of Flemish fowls which furnishes these early-maturing chickens being known as the Braekel, which has long been famous for its precocity. French poultry breeders are urged to exhibit the attractive Mans and La Bresse chickens at the Smithfield dead-chicken show, held annually in London.

England is credited with but a small production of turkeys, and, in spite of the supplies from the county of Norfolk and, more recently, from Ireland, importations from abroad have increased enormously in late years, as the liking for turkeys is greatly on the increase in England. The British market is supplied primarily from Italy and France, Canada and parts of eastern Europe ranking next. M. de Loverdo does not mention the United States as sending poultry to this market. France sends two kinds of turkeys—from Solonge and Normandy, respectively. These used to find a ready market, but latterly have found formidable rivals in the Irish turkeys, which are better fattened and cared for. The Normandy turkey is more precocious than the Sologne and fattens very readily. The flesh is juicy and of an exquisite flavor, and commands about 4 cents a pound more. It is suggested that the Normandy turkey might with advantage be introduced into the French midlands. Next to the Norfolk turkey, which occupies the place of honor in

the English market, those from France and Ireland are most valued. But more turkeys are received from Italy than from France. The Italian turkeys possess a flavor almost equal to the Normandy birds, though their weight does not often exceed a dozen pounds. France exports annually 60,000 turkeys, while Italy exports from 600,000 to 800,000; but the birds from beyond the Alps find their way not only to London, but to Leipzig, Dresden, Frankfort, Berlin, and Hamburg, and they realize higher prices in those German towns than in England. During the last two or three years, Canada has made extraordinary efforts to establish a turkey trade in England, the greatest care being bestowed upon the transport in cold storage; but, while these Canadian birds have no lack of quality and easily attain the weight of 20 pounds, it is said the refrigeration they are subjected to does not improve the flavor of the flesh.

But this complaint about refrigeration is always made in Great Britain, and I judge from the statements of those who have made a fair, honest, and unprejudiced trial with refrigerated meat that chilled meat, as opposed to frozen meat, is all right if properly taken care of, if allowed to "thaw" out slowly and not put in the oven while cold. The general objection to it here seems to be based largely on prejudice, and I believe the consumer is not aware of the difference, provided the meat is not delivered cold. An acquaintance tells me that, when in Australia, he sent two lambs to friends here whom he knew would follow his instructions. He tried to have them arrive so that his friends could enjoy the novelty of "spring" lamb on Christmas day. They were instructed to allow the carcasses to hang so that they would warm slowly and be at a natural temperature when put in the oven. His friends obeyed with exactness and reported that they never enjoyed better lamb; so that even frozen meat can be used and enjoyed if properly heated, as of course all Australian meat must be frozen in transport on account of the great distance. America, on the other hand, has an advantage in shorter distance; it can transport meat chilled and not frozen. The butchers here claim that in meat which has been frozen, the blood vessels are found to have burst when the meat is cooked. The fact is, the best American meat brought to this market is sold by the butchers—so great is the prejudice against "frozen" meat—as English meat, but it can generally be told by the smaller bones, as we kill younger cattle; while the poorer grades of English meat are often sold as American meat, and, of course, there are some very poor grades of English meat, for there is so much pedigree cattle of value too great to be killed until beyond the breeding age. It happens to be a fact at present that it is more difficult than formerly to get good meat in England, and if the statements of the butchers of Birmingham, in

their recent proclamation announcing a 4-cent-per-pound increase, are to be believed, this is due to the lessening of the American supply, owing to the number of transports employed for South Africa and the amount of meat which must be shipped thither. Of course, the butchers do not confess that the decrease in the American meat supply means a decrease in the supply of good meat, though this is the fact; it has increased the demand for English meat, so that English meat is now "too fresh."

In continuation, M. de Loverdo says that, so far as France is concerned, Canadian competition need not be regarded as disquieting. Hungary and Servia have furnished some indications of ability to supply the London market with turkeys; but, owing to the great overland distance, the dead birds do not arrive in the best of condition, while the use of refrigerators would put them in practically the same category as those from Canada.

Geese are less in favor with the British public than formerly; but there is a demand in excess of the home supply, especially at Christmas time, and France reaps this benefit almost exclusively, it being estimated that 100,000 to 150,000 are sold in London in December, while the other cities in England also furnish advantageous markets for geese. Sarthe geese have the highest reputation in London, the giant birds of Toulouse finding less favor. Geese should not exceed 9 to 12 pounds each in weight, and the tendency to produce Sarthe geese in excess of this size is discouraged. Southern Hungary has in recent years produced fine birds to compete when dressed with the French geese in London, but there is a reddening of the skin and a sensible depreciation in quality, due to the length of the transport. Russia has made some attempts, but produces only a mongrel, which fattens with difficulty.

Great Britain imported 16,000,000 great hundreds (1,920,000,000) of eggs in 1899. Many Russian eggs are credited to Germany, though originally coming from Russia, and many coming from Italy are credited to France and Belgium. French eggs would seem specially fitted for prompt consumption, on account of the short transport; but, unfortunately for the French producers, an unwise practice has been adopted by many farmers, especially in Normandy, of keeping eggs many days or even weeks in the hope of getting better prices, and as a result the eggs have not reached London in perfect condition, and French eggs have become discredited; one large firm is quoted as spending not more than £30 a week where formerly £1,000 a week was spent, and this discrediting of French eggs has happened at a time when other countries are perfecting their methods.

Denmark, exporting four times as much butter to England as France does, has applied to the egg trade those principles of cooperation which have already proved successful in the butter trade and

other industries connected with agriculture. In the rural districts of the little Baltic Kingdom, cooperative societies undertake the exportation of fresh eggs of a good quality, and members are required to scrupulously conform with the rules of the society. To ascertain, for example, by what member of the society a bad egg has been furnished, the shell of every egg is required to be marked with an india-rubber stamp, so that the person by whom the egg was supplied may be at once identified. Depots are established along the lines of the railway, and each producer is required to make a delivery of eggs at least three times a week. At each depot, there is an agent of the society who has the right to refuse any eggs about which suspicion arises or which are more than four days old. The approved eggs are sorted according to size. The inspection takes place with a lamp in a darkened chamber, and the discovery of a single rotten egg in London would be followed by a heavy claim against the Danish depot which furnished it. The Danish egg trade in England is growing tremendously, the English consumers appreciating their carefulness; and the Italians are imitating the Danish system, two centers of export having already been established on Danish principles. French producers are urged by M. de Loverdo to adopt the same system.

The following are the figures, in great hundreds of 6 score each, of the importation of eggs into the United Kingdom from France and Denmark, respectively:

Year.	France.	Denmark.
	Gt. hunds.	*Gt. hunds.*
1895	2,730,332	1,279,013
1896	3,275,776	1,566,623
1897	2,675,667	1,748,800
1898	2,115,098	2,019,508
1899	2,288,562	2,266,030

MARSHAL HALSTEAD,
Consul.

BIRMINGHAM, *March 13, 1900.*

FOOD ADULTERATION IN EUROPE.

As the food supply has always been the first problem to solve among the nations, and as a wholesome food supply is of the utmost importance for the health of the human race, it is natural that those whose duty it is to protect this interest are assuming great activity against the prevailing tendency to adulterate and debase the food supply of the world. But in the face of all this activity on the part of the authorities, the adulterators are waxing bolder, and the field

for the debasement of human food is extending its boundaries every year with a rapidity that is as startling as it is discouraging.

The following are a few of the articles of food that are adulterated in the Old World to an extent that is attracting the serious attention of the authorities in the different countries, and especially in Switzerland, where the laws against the debasement of any kind of human food are very strictly enforced.

CHOCOLATE AND CACAO.

Chocolate and cacao are coming more and more into general use as articles of food. Many people who are unable to drink coffee or tea use chocolate and cacao as a beverage. The slot machines have extended the consumption of chocolate, and altogether its use has greatly increased during the past ten years. This advance in demand forced an increased supply; the adulterator saw his opportunity and commenced operations, and at once there was noticeable an increase in the trade in mutton tallow, lowest grade sugar, shells of the cacao bean, sawdust, potato meal, and the ochers containing the proper colors.

HONEY.

This delicious and, in its natural state, very wholesome breakfast dish is coming into general use on the continent of Europe; and the bees, be they never so busy, can not supply one-third of the honey that is consumed, so someone must naturally make enough to supply the deficit. Through a series of manipulations of almost everything containing saccharine, this is now being successfully and very profitably accomplished; and, of course, this industry flourishes best in those years when the bees have but little success in manufacturing the real article, which very often occurs. The "dishonoring of honey," as it is called, is a growing art, and several successful establishments are now in operation, producing large quantities of this artificial honey for the market, and the product is in popular demand. The people seem to like it. It is cheap and the sales are large. All sorts of ingredients enter into its manufacture, among which may be mentioned sirups, malt extracts of the lowest grades, meal of different kinds, and cornstarch. From a pound of bee honey, 5 to 10 pounds of "dishonest honey" are made so successfully that it sometimes requires an expert to discover the deception.

WINES AND LIQUORS.

It is a well-established fact that some of the wine that is consumed has never contained a drop of grape juice, and many of the liquors contain hardly a drop of the genuine article. Much of the

wine on the market is from pressings several removes from the first, and is amplified by the sap of plums, cherries, apples, berries of different kinds, and water. Potato sirup dissolved in rain water and mixed with the refuse of the wine and cider press makes a salable beverage, and some people are satisfied with the aroma and stimulating qualities of this artificial wine. The desired color and bouquet may be obtained by mixing wine acids with cream of tartar.

BEER.

Although the production of this beverage is very carefully controlled by the authorities in many of the continental countries, especially in Germany and Switzerland, the adulteration is carried on to such an extent that its quality is not what it would be if the laws against its debasement could be rigidly enforced. Chemical analysis proves that, aside from malt, hops, and water, some beer contains chicory, pine sprouts, camomile, henbane, wild cherries, poppy heads, guinea grains, boxwood, potash, vitriol of iron, alum, licorice, solution of tartar, linseed, and similar ingredients. These substances enable the manufacturers to produce beer cheaper, and some of them help to make it heavier and more stimulating, and, from the large quantity consumed, it would seem that this is what some people demand; consequently the supply.

BREAD.

In Switzerland, bread seems to play a more prominent part as food than in any other country, except France. It furnishes 70 per cent of the nourishment of the 3,000,000 inhabitants in the Swiss Republic, and that the nourishment is wholesome and adequate is proven by the sturdy health for which most of the Swiss are noted. I doubt, owing to the careful enforcement of the anti-adulteration law of Switzerland and the prompt and vigorous protest of the people themselves when an infraction of it is discovered, whether there is any country in Europe that has, as a rule, purer and more wholesome bread than this Republic. But rigorous enforcement of laws and prompt resentment of the bread eaters have not, thus far, prevented adulteration taking place. Being the chief article of food, it has the widest market, and consequently offers the best opportunity for debasement. To increase the weight of bread is becoming quite an art on the continent of Europe. Some bakers soak the dough heavily with water and by quickly baking succeed in holding much of its weight. Others mix potato meal with the flour. This system does not necessarily make unwholesome bread, although it lessens its nourishing power. The most unwholesome bread is made out of low-grade flour, in which alum or blue vitriol

is used to improve its appearance. Sometimes, the admixture of these ingredients is too generous, and these poisons become so pronounced as to severely affect the health of the consumers.

MILK.

Milk also has its troubles. The pump is not its only source of increase. If water is added to milk, the dilution will always be apparent unless some ingredient is applied to cover the deception and restore the color, and sometimes certain kinds of soap are successfully used for this purpose.

BUTTER.

Butter has not escaped the wiles of the adulterator, and the different ways in which it is debased are many, and some are past finding out. All kinds of cheap fatty substances are employed and good oleomargarine is the least objectionable of them all, according to experts. Most people like yellow butter and demand it at the market place. It is not difficult to understand, therefore, that when the season and fodder are unfavorable to the making of yellow butter, art should step in to satisfy the wishes of the buyer; and the juice of the carrot is used to give the butter a golden hue. But this can hardly be called deleterious adulteration, provided pure carrot juice is employed. Water left in butter increases the weight, and some butter makers have not allowed this fact to escape their notice.

CHEESE.

The door to adulteration is wide open in the cheese industry. Natural and some chemical fats find their way readily into cheese vats. Milk of all qualities and in all stages is used, and potatoes that are worthless for marketing purposes are ground exceedingly fine for cheese making; and it is said that even the blood from the slaughterhouse sometimes plays a part in this manufacture.

COFFEE.

If all of the substances that pass through a continental coffee-grinding machine during the year should be written in alphabetical order, A would begin the list with acorns and W would end it with wormwood, sprouts of which are sometimes used to give the debased coffee a slight aromatic bitter taste. Adulteration occurs largely in the coffee that is sold in the ground form. Several coffee-berry factories have been discovered in Europe which were doing a large and profitable business by molding an admixture of tan bark, stove rust, clay, sawdust, chicory, coffee sediment, and coffee meal into a neat berry by the aid of some agglutinant; and these berries were so well made that the deception was not discovered for a long

time. This production had a large sale among the lower classes of Russia and Poland, and, mixed with the genuine coffee berry, its sale was quite lively in other parts of Europe.

Unroasted coffee berries are often made from oat and rye flour and corn meal. The natural aroma of these grains is destroyed by some process, and, after the proper amount of coffee aroma is added, the berries are formed and caused to maintain their shape by some adhesive substance. The test usually employed to discover this deception is to place the beans in a receptacle containing warm water; this will dissolve them in a few hours.

TEA.

The debasement of tea is a growing industry. Twenty-five years ago, the tea-drinking habit was confined largely to Holland, Russia, and England; but the beverage is now popular in almost every continental country. This new condition increases the demand, and the adulterators thus have the opportunity to ply their nefarious trade with success. Take a handful of ordinary tea, place it in lukewarm water, and when the leaves are thoroughly saturated, open and spread them out, and, three chances in six, you will find a quantity of strawberry, linden, sage, and other leaves in the collection. But should it be found that all of the leaves belong to the tea plant, that will be no proof that adulteration has not taken place, for the clever Chinese have a trick of using the old leaves of brewed tea for the export trade, and some of the tea dealers of Europe have discovered the deception and are utilizing the trick by preparing these leaves themselves.

PURITY OF AMERICAN MEATS AND FRUITS.

Thus, at a time when American meats and dried fruits are having a struggle for existence on the markets of Germany and Switzerland and some other European countries, owing to the unfounded and false ideas of their unwholesomeness—ideas created by the spirit of competition alone—it is not an inopportune time to call attention to the well-founded belief among the breadwinners of Europe that our meats and fruits are far cheaper and more wholesome and nourishing than tons of other food supplies which they are purchasing every day without thought of protest, and at prices high enough to satisfy the most eager profit taker in the land.

JAMES T. DUBOIS,
Consul-General.

ST. GALL, *April 3, 1900.*

SUGAR AS FOOD.

In Grandeau's pamphlet entitled "Le sucre et l'alimentation de l'homme et des animaux," Paris, 1899, the following estimate of the world's sugar production is given:

	Tons.
Cane sugar	2,432,000
Beet sugar	4,822,000
Total	7,254,000

Nearly one-fourth of all the sugar produced is German beet sugar, which amounts to 1,700,000 tons annually. Of this German production, more than one-half is exported, and accordingly the price is dependent upon sugar consumption in other countries and the demand in the world's markets. The growth of the beet-sugar industry in the United States and the increase of production in other parts of the world are already causing anxiety in Germany. The calm and intelligent German mind is accordingly now busy with investigations upon the results of which plans can be based for preserving a healthy equilibrium between consumption and production, and thus protecting industries in which millions of Germans have a vital interest.

Many elements of uncertainty enter into the question of how to restrict the increase of production. Moreover, as far as foreign countries are concerned, it would be useless to waste time in discussing this question.

The questions, therefore, which Germans are now considering are these:

There is a large overproduction of sugar in Germany, which at present makes exportation an absolute necessity. Will natural causes maintain this foreign demand for German sugar? and can Germany's overproduction be decreased by increasing the consumption of sugar at home?

The use of sugar began in the Orient and gradually spread to Europe and America. The quantity used per capita is constantly and everywhere increasing, as is shown by the following table:

Country.	1870–1875.		1885.		1897.	
	Kilograms.	*Pounds.*	*Kilograms.*	*Pounds.*	*Kilograms.*	*Pounds.*
Great Britain	22.6	49.8	32.6	71.8	38.9	85.7
America	16.3	35.9	24.5	54	28.3	62.3
France	7.8	17.1	10.7	23.5	13	28.6
Germany	6.7	14.7	7.8	17.1	12.1	26.6
Austria					8.9	19.6
Russia					4.9	10.8

Owing to the growth of the sugar-using population, the total increase in the amount consumed is much larger than is indicated by the gain per capita.

The increase of consumption is shown by the following table:

Country.	Increase from 1874 to 1897.	
	Total.	Annual.
	Per cent.	*Per cent.*
Great Britain	90	3.5
America	278	12.1
France	142	6.18
Germany	157	6.91
Austria	107	4.65

Unless, therefore, the world's production be very much increased, it is probable that the demand for German sugar will at least remain stationary.

But the German prefers to be ready to meet any emergencies which may arise. It is always possible that the foreign demand for German sugar may be lessened by increased production abroad, by measures growing out of international customs wars, and by other unforeseen causes. Furthermore, the amount of sugar which must be exported may be increased by the extension of beet culture in Germany. The protection of this great industry and of the people dependent upon it therefore demands a large increase in the home consumption. The table given above shows that the amount of sugar used in Germany per capita is rapidly growing, but it is realized that this growth must be encouraged and largely accelerated. This can be done in two ways—namely, by increasing the manufacture and exportation of conserves, marmalades, etc., and by increasing the amount of sugar used by individuals, especially in the army, where increased consumption may be made compulsory. The question of increasing the manufacture of conserves is a practical one, which does not require consideration here.

But before raising the amount of sugar to be used by individuals, German scientists have investigated the question as to whether this can safely be done. They have decided that the amount of sugar used by individuals can be increased without hesitation, as sugar has many valuable characteristics. Its value lies not alone in its sweetness, but in the fact that it is a valuable dietetic remedy and an excellent article of food. Sugar is a very easily soluble carbon hydrate and as such is quickly assimilated in human and animal bodies, producing warmth and force. It is also fattening and can

be used as mast. As a developer of strength, it has long been used, especially by mountain climbers. Various experiments have been made for the purpose of ascertaining whether sugar can be advantageously used for fattening animals. The results have proved favorable as far as hogs are concerned. It has been found that by-products of sugar fabrication, denaturalized and free of tax, can be advantageously used as food for hogs. Molasses, which contains about 50 per cent of sugar, is already much used, mixed with palm flour or peat, as cattle food.

The principal object of the experiments has, however, been to ascertain positively whether, as alleged, sugar possesses the power of quickly increasing or restoring strength and thereby making men fit for unusual exertion. This point has been carefully investigated, the scientist not watching the entire muscular action of a man because that would have been too difficult, but confining himself to observing a single finger through an instrument called an ergograph—*i. e.*, "work measurer." He allowed the middle finger of the right hand to lift a weight, and then registered the degree of the lifting force. The experimenter found that after sugar had been eaten the lifting force was stronger than before, and he therefore concluded that sugar is a strength-producing material.

Other investigators claim, however, that sugar has merely an exciting effect through its sweet taste, and that a dulcine solution, which contains no carbon hydrate and accordingly can not be nourishing, has the same effect as sugar water. The inference from this is that the assertion that sugar produces strength is a fallacy.

This disappointing experiment has, however, been repeated by two scientists, and the same result was reached when the man experimented upon had his full strength; but the effect of eating sugar was found to be entirely different when the man had first tired himself by turning a heavy wheel (ergostat). The eating of sugar brought to the exhausted man new strength, and the ergograph registered increased force, which was not the case when dulcine was eaten. It is accordingly accepted in Germany as satisfactorily proven that sugar can renew the strength of a wearied man through giving his tired muscles carbon hydrate as a strengthening material. Extensive experiments have since 1898 been made upon German soldiers at the maneuvers, with moderate success. It is believed that by eating half a dozen cubes of sugar more than usual in a day, a soldier's power of endurance is increased. The Germans at any rate think it worth while to continue to experiment, for the purpose of ascertaining positively whether sugar can give renewed strength to exhausted troops, thereby increasing their value in moments of emergency.

If in these ways the domestic consumption of sugar can be enlarged, the overproduction will be lessened, and it is hoped that thus beet culture and the sugar industry will continue to be of great value to Germany in the future.

GEORGE H. MURPHY,
Vice-Consul.

MAGDEBURG, *March 21, 1900.*

NORWEGIAN MACKEREL FISHERIES.

The following extracts are from a report* by Consul Nelson, of Bergen, under date of March 17, 1900:

The mackerel fishery of Norway shows a comparatively good result this year. The catch for the last seven years was as follows:

	Barrels.
1899	16,500
1898	10,000
1897	9,785
1896	10,257
1895	5,720
1894	14,050
1893	20,000

The above statistics show that the amounts taken vary greatly from one year to another.

The number of vessels participating in this industry has decreased as follows:

	Vessels.
1894	559
1895	468
1896	397
1897	309
1898	255

Statements are lacking as to the number of last year, yet it can scarcely be larger than during the previous one.

It is not surprising that more and more retire from the trawling fishery, which, as can be seen above, is very uncertain; but it is to be regretted, because everyone agrees that it is the easiest way to fish. The outlay is little or nothing, and, owing to the high prices which the American markets offer, it does not require a large catch to pay expenses.

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*The full text has been transmitted to the Fish Commission.

The prices obtained were as follows:

Brand.	Quantity.		Value.		Price.	
					Per kilogram.	Per pound.
	Kilograms.	*Pounds.*	*Kroner.*		*Kroner.*	
0	1,511	3,331	1,495.89	$400.90	0.99	$0.12
1	1,576	3,474	1,323.84	354.70	.84	.10
2	1,783	3,931	1,158.95	310.59	.65	.08
3	184	406	79.12	21.29	.43	.05
Total	5,054	11,142	4,057.80	1,087.48		

The principal fishery begins in July, August, or the beginning of September. At first the mackerel are comparatively scattered; during the course of the season they gradually go southward, yet they can sometimes be found as far north as in the neighborhood of the Shetland Islands, and in general are fat and big, and are always found together with fry.

Shortly after their disappearance from the principal fishing ground (which occurs as soon as the young fish are large enough to shift for themselves), they are found again farther south, often near the "Doggerbanks;" and here the after fishery begins, the principal characteristic of which is that the mackerel gather on certain spots and look for a species of crustacea.

FISH SCALES IN FRANCE.*

I have had an interview with Mr. Leuret, the manufacturer of artificial pearls from fish scales. He will go to the United States and erect works there as soon as he hears of a locality where the right kind of scales can be had in large quantities.

I suggest that a suitable place might be found on the St. Lawrence River, among the Thousand Islands. Some years ago, the State or national authorities cast quantities of spawn into Lake Ontario, among which was the spawn of some salt-water fish. The latter die before maturity, as soon as the water becomes warm. Every summer, many thousands of them are cast upon the shores of the river and islands. They are called by two names—menhaden and alewives. If these were tried and found suitable, works could be built and put in operation there in a short time. A sample sent me will receive prompt attention.

* For previous reports on this subject, see ADVANCE SHEETS No. 648 and No. 711 (February 7 and April 23, 1900); also CONSULAR REPORTS No. 234 (March, 1900).

The scales should be small and have a silvery sheen. The brighter they are, the higher price they will command. The scales should be removed while the fish are alive, if possible. They should be packed with slime, very little salt being used (about 5 grams per pound of scales). All organic matter that may cause decay should be removed and the scales left suspended in a mosquito netting until the surplus slime oozes off, then packed in a zinc can of 10 or 12 pounds capacity. Tin oxidizes where zinc will not. Scales will rust tin, but not zinc. The opening in the top of the can should not be larger than half a dollar. If larger, the scales will suffer from the heat of the soldering iron.

Twenty-five thousand pounds of these scales can be used per year. It is anticipated that twice that quantity may be used in a few years. The price paid will be 80 cents to $1.25 per pound, according to quality and the amount of shiny matter on the scales. The present supply is from a fish called the bleak or blay. Mr. Leuret thinks that a child 12 years old can easily remove 4 or 5 pounds of scales per day.

JOHN C. COVERT,
Consul.

LYONS, *April 13, 1900.*

SCARCITY OF PAPER AND INCREASED PRICES IN FRANCE.

I am in receipt of a commercial circular, issued by the house of Moullot Fils Ainé, probably the largest printing and stationery concern in France, stating that papers of all kinds are scarce, and that prices have greatly risen. It has occurred to me that American manufacturers might possibly see an opportunity under the circumstances of transacting some business. A translation of the circular follows:

MARSEILLES, *February 1, 1900.*

DEAR SIR: Our industry is at this moment passing through an unprecedented crisis.

As you have learned through the medium of the newspapers, and as will be seen from a perusal of the annexed circulars, the increase in price which has affected all raw materials—wood pulp, rags, coals, metals, chemical products, etc.—has caused considerable advance on all our products.

In spite of these successive advances, which in some cases have reached 20 per cent and even 25 per cent on the value of the goods, we are not only threatened with further rises, but also with an actual scarcity of papers.

Indeed, in consequence of the want of certain raw materials of which we have spoken above, notably rags and wood pulp, all paper manufacturers, both in France and abroad, are late in their consignments. This situation renders it necessary—instead of delivering immediately, as heretofore—to request delays of three or four months, without binding ourselves, for all new orders received.

Thanks to the very large stocks which we have in our depots and to the important purchases with our makers at the old rates, we have been able up to the present to readily meet the demands of all our clients without increase of price. But the situation of the market is daily more difficult. We shall be obliged at a very early date to modify in our turn conditions of sale, and even in some cases to refuse orders for delivery on a fixed date.

We can not too often repeat that the present advances and the difficulty of obtaining supplies can only be accentuated for a period the duration of which we can not foresee, but which will certainly extend to the year 1902 at least.

In awaiting your commands, we beg you to accept, dear sir, our best salutations.

ROBERT P. SKINNER,

MARSEILLES, *April 7, 1900.* *Consul.*

FRENCH IRON AND COAL PRODUCTION IN 1899.

The official statistics of the production of coal, pig iron (fonte), iron, and steel in France for the second half of 1899 have just been published.

The total of coal was 16,549,994 tons, a falling off of 165,138 tons as compared with the second half of 1898.

The output of pig iron (fonte) was 1,280,347 tons, an increase of 15,480 tons.

The production of iron was 423,092 tons, an increase of 29,479 tons.

The worked-steel product was 624,482 tons, an increase over the last half of 1898 of 48,790 tons.

The product of the entire year 1899 was: Coal, 32,933,780 tons, an increase of 577,684 tons over 1898; pig iron (fonte), 2,567,388 tons, an increase of 42,313 tons; iron, 812,755 tons, an increase of 76,345 tons. Total production of worked steel for 1899, 1,253,701 tons, an increase of 79,626 tons; total production of Bessemer and Siemens-Martin ingots, 1,529,182 tons, an increase of 95,465 tons over 1898.

JOHN C. COVERT,

LYONS, *March 30, 1900.* *Consul.*

GERMAN PRODUCTION AND CONSUMPTION OF IRON.

The German Iron and Coal Association has recently published a statement of the consumption of raw iron in Germany during the last year, the estimate having been made by adding to the finished goods (iron in bars, steel, coarse iron and steel ware, and iron machines) 33⅓ per cent for the waste in the high furnace.

According to this statement, the production, importation, exportation, and consumption are:

Description.	1899.	1898.	1897.
	Tons.	*Tons.*	*Tons.*
High-furnace production	6,881,466	7,312,766	8,142,017
Importation:			
Raw and cast iron	462,122	407,889	675,793
Finished goods, plus 33⅓ per cent addition for waste	229,116	264,141	343,725
Production and importation	7,572,704	7,984,796	9,161,535
Exportation:			
Raw and cast iron	128,987	272,470	235,194
Finished goods, plus 33⅓ per cent addition for waste	1,908,335	2,053,377	1,992,311
Total exportation	2,037,322	2,325,847	2,227,505
Home consumption	5,535,382	5,658,949	6,934,030

Consequently, the production of raw iron has increased by 829,251 tons, or 11.2 per cent, after a gain of 431,500 tons, or 6.3 per cent, in 1898.

The importation has increased by 347,488 tons, or 57.7 per cent. The exportation has at the same time diminished by 98,342 tons, or 4.2 per cent; so that the consumption in Germany, which has been increasing continually since 1893, has risen to 6,934,030 tons in 1899, an increase of 22.5 per cent.

OLIVER J. D. HUGHES,
Consul.

COBURG, *April 9, 1900.*

GERMAN PRINTING MACHINERY IN PUERTO RICO.

It may surprise some of our iron manufacturers to learn that, among other articles, printing presses and machinery have been exported from this district to the island of Puerto Rico during the past year. Printing presses and machinery of American manufacture are conceded to be the best in the world, and yet, through the agency of efficient and wide-awake salesmen, machinery manufactured in this district has been sold in quantities in the above-mentioned island.

The machinery manufacturers of the United States should see that their products are brought to the attention and consideration of those who have need for such articles, even in a place where the market is somewhat limited, like Puerto Rico.

The successful introduction of one product of American make into a foreign section or new country facilitates the sale of other articles of the same origin. In this manner, the importation of

American machinery into a new section would lead to the importation of American machine tools, and machine tools would lead to the importation of lubricating oils, lubricating oils to petroleum and fuel, and so on.

BRAINARD H. WARNER, Jr.,
Consul.

LEIPZIG, *April 11, 1900.*

GERMAN ELECTRO-ENGRAVING SYSTEM.

The electro-gravure is an electro-chemical etching, such as is used in making the illustrations for books, periodicals, etc., which, however, produces pictures in relief, which formerly could only be made by engraving.

In 1897, Josef Rieder, of Munich, succeeded in producing an etching on a steel plate by using a porous gypsum model dipped in a special solution capable of conducting an electric current. Two full years of hard work were necessary, however, to make the invention of practical worth, as it was found that the electric current became ineffective almost instantly (in fifteen seconds), on account of the etching ingredients, the carbon refuse from the eaten steel especially preventing the transmission of the electric current, thus necessitating the cleaning of the model. The cleaning could not be done by hand, and so a machine was invented which made it possible to remove the model from the plate and replace it in exactly the same position.

The model is brought in contact with the plate and allowed to remain there about fifteen seconds; then it is raised and carefully cleaned with a sponge brush, and again applied to the plate.

This new machine works to perfection, and is so simple that it is thought that before long it will come into general use and enable lithographic and cardboard factories, manufacturers of jewelry, stamped-leather goods, wall paper, etc., to make their own dies easily and quickly.

A company has been recently organized for constructing these machines, and before long will be able to put them on the market.

BRAINARD H. WARNER, Jr.,
Consul.

LEIPZIG, *March 31, 1900.*

No. 238——5.

NEW METHOD OF MAKING LIMESTONE BRICK.

Burnt-clay bricks, like natural stone, have served as building material from the beginning of history among nearly all races. Recently, a formidable rival has sprung up in the sandstone brick. This brick is the product of quartziferous sand, with which a proportionately small amount of lime is mixed, the whole mass being subjected to a high pressure of steam. The result is an extremely hard, water-tight product, impervious to frost or weather and unaffected by all acids. Like every new industry, sandstone-brick making has had many technical difficulties to overcome, the principal one being caused by changes in the weather. In cold, wet weather much poorer results have been obtained than in warm, fine weather. Chemists and experts have tried to find a way by which a uniform degree of excellency would be insured; but all failed, until the Zurich chemist Wilhelm Schwarz invented a process by which good results could be obtained under all circumstances. Mr. Schwarz found that it was necessary to give the mixture an exact quantity of moisture, as well as to prepare and mix it at a certain temperature, so that the combination of the silicic acid in the sand and lime should begin to take place before the mixture is pressed into brick forms. In this way, all deleterious aëration of the lime is avoided during the manufacturing process. Mr. Schwarz has invented a process by which the amount of moisture can be regulated—namely, mixing dry sand with lime in a vacuum, so that any aëration of the lime by the carbonic acid of the atmosphere is impossible. At the same time, the temperature is raised to and kept at a certain degree by steam heat, and then a certain quantity of moisture in the form of steam is admitted. By this means, the preparatory process is safely finished, the action of the steam causing the condensation of the silicic acid in the sand and lime and so giving the proper proportion of cementing particles to the mixture.

For employing this process, a machine has been built in which the preparatory and working process can be carried out—a mixing machine provided with revolving arms for mixing the sand and lime, steam tight, with an air pump attached to exhaust the air and also to draw out any excessive quantity of moisture. Inside is a tube for admitting the exact quantity of necessary steam. By properly managing three valves, the limestone raw product can be made of uniform quality, while formerly several machines and apparatus, which needed constant attention, were necessary for making this product, and then the results were never entirely satisfactory.

With the Schwarz invention begins a new era in the limestone-brick industry that will be of great importance in all countries, and particularly in regions where there is neither clay nor stone, but where there is plenty of sand.

BRAINARD H. WARNER, Jr.,
LEIPZIG, *March 26, 1900.* *Consul.*

WATERPROOF MATERIAL IN GERMANY.

Under date of January 4, I sent a report on fireproof material in Germany,* the invention of a firm in Freiburg, and incidentally made mention of the fact that the firm had been in existence for several years as manufacturers of waterproof articles, such as horse blankets, tenting, etc. As numerous inquiries have been received from the United States, indicating an active interest in this subject, I have investigated this other branch of industry and present the following report:

Until quite recently, no process of rendering woven fabric, canvas, etc., waterproof was known in Germany, except the use of fatty substances, such as wax, soap, paraffin, etc. A system had been invented in England of impregnation with a copper solution, but this did not prove entirely satisfactory; and, besides, as the process was kept a close secret, the raw material had to be shipped to England for treatment, which, of course, increased the price of the waterproof-finished product considerably and proved a great drawback. Experiments were then made in Germany, and a preparation of copper-ammonium-oxide was used by some firms; but this firm at Freiburg makes use of a solution containing zinc, copper, and ammonium hydrate, which has been patented in many countries, and goods treated with this preparation seem to have special advantages in respect to quality and color.

The copper in the solution, it seems, gives a beautiful blue-green color without the use of any dyestuffs whatsoever, the various shades being due to the differing qualities of the goods. Unbleached white cottons receive a bluish-green color, while the heavy canvas, which contains flax or hemp, becomes intensely green.

During impregnation, there is a chemical compound formed between the fiber of the fabric and the solution, so it is clear that the new properties must become firmly fixed. It will also be evident from this fact that there can be no clogging of the fabric with various salts; and, what is of still more importance, the weight remains almost unchanged.

*ADVANCE SHEETS No. 643 (February 1, 1900); CONSULAR REPORTS No. 234 (March, 1900).

The copper in the solution, it is claimed, will prevent the growth of destructive germs, and the material itself becomes incorruptible and very serviceable for all kinds of weather. Goods which have been buried or kept underground for a long time are unaffected, while the corresponding raw material, or that treated with a non-metallic solution, if kept underground the same length of time, would show signs of decay and decomposition and lose the power of resistance.

As no fatty substances are contained in this solution, the fabric treated is not liable to be attacked by insects and worms.

On account of the advantages of light weight, resistance to decomposition, protection against insects, etc., the material is well adapted for tenting, especially in tropical regions; and I understand that the German army administration is making free use of these goods for field hospitals, horse blankets, awnings, etc.

By dyeing the material before impregnation, other colors can be obtained, as olive green, brown, and black, and in every case the qualities remain good.

Thin cotton goods are used for the manufacture of waterproof garments for hunters, physicians, and coachmen, who have to be out in all kinds of weather, and also for gossamers and bicycle garments.

Not only are these substances very light, but they have the great advantage of cheapness, are odorless, do not break or become sticky, and are preferable to articles made of rubber, as they do not prevent the free circulation of the air.

E. THEOPHILUS LIEFELD,

FREIBURG, *March 28, 1900.* *Consul.*

NEW COTTON EXCHANGE AT BREMEN.

The corner stone of the Bremen Cotton Exchange was laid on March 31 with the usual ceremonies, which, in this case, were performed by the mayor of the city and the president of the exchange. This was an event of more than ordinary interest to an American. The building is to be the first one in Germany constructed entirely upon the American system of erecting such structures; that is to say, for the first time the people of this city will see an iron framework rise from the foundation up to the roof, the walls and floors and ceilings to be put in afterwards.

As is well known, the leading cotton market on this continent is Liverpool, but Bremen comes next. It is remarkable how rapidly this exchange has grown from a very small beginning. The president of the exchange, in his address during a banquet given in the

evening following the ceremonies of corner-stone laying, called attention to the fact that in 1875 only 97,000 bales of cotton had been arbitrated upon. Twelve years later, in 1887, there were only 300,000 bales; but last year, another twelve years afterwards, not less than 1,431,000 bales.

When it is borne in mind that by far the greater part of the cotton brought into this port and bought and sold at the exchange in this city is imported from the United States, the completion of this new structure will be watched with special interest.

HENRY W. DIEDERICH,
Consul.

BREMEN, *April 5, 1900.*

WAGON FACTORY IN CHEMNITZ.

A company has been organized in this city, with a capital of $3,570,000, to build wagons, carriages, etc. Consuls have often called attention to the opportunities offered in this Empire and all over Europe for the sale of American wagons, carriages, and vehicles of all kinds. The success achieved at home is a guaranty that our products, if properly pushed, would find ready and profitable sales abroad. The roads here are remarkably even. The wear and tear, so heavy in parts of our country, have been minimized, if not entirely eliminated. This factory will furnish a great opportunity to our manufacturers of wagon and carriage tools and machines; also to makers of wood-working tools and machines. In these lines, we are said to excel. If catalogues containing price lists are sent to this consulate, care will be taken to see that they are properly distributed. The catalogues should, if possible, be printed in German; luckily, this is not absolutely necessary, as most merchants and manufacturers here read English. Before the factory is finished, before it can turn off a single wagon or carriage, our manufacturers or agents ought to make a supreme effort to effect sales of vehicles here.

J. F. MONAGHAN,
Vice-Consul.

CHEMNITZ, *March 21, 1900.*

AUTOMOBILES IN GERMANY.

The automobile industry, though still in its infancy in Germany, is being rapidly developed and before long is destined to become an important factor in the manufacturing circles of this country. The large amount of capital and energy which are being spent upon this branch of industry indicate that German business men, the most conservative financiers in the world, have great confidence in the

future of automobilism. Last year, there were about 1,000 men employed in and around Berlin in the automobile industry, and, to judge from the present outlook, this number will be more than doubled during the present year.

In France, where automobiles were first seriously taken up and pushed, the results which have been aimed at for the most part have been to obtain excellence in sporting and luxury automobiles, while in Germany just the opposite state of affairs has existed, the manufacturers having given more of their attention to making freight automobiles—not without success either, as was shown at the international motor-wagon exhibition which was held in Berlin last year.*

For motive power, electricity and benzine are almost exclusively employed; the use of steam power is as yet hardly out of the experimental stage; the same may be said of the employment of compressed and liquified air, and of combined systems (benzine and electricity, etc.), the advantages of which are offset by a too complicated mechanism and the great amount of attention which is necessitated thereby. Electricity as a motive power has a strong competitor in benzine. The employment of the electromobile depends upon the nature of the lead accumulator; the great weight of this apparently as yet irreplaceable metal increases the weight of the motor to such an extent that the electromobile can be used to advantage only in carrying persons and light loads on good roads with easy grades.

The electromobile necessitates the establishment of charging stations. It is well adapted for omnibuses in cities with electric-light plants and good streets, and also for delivery and luxury vehicles.

The electric automobile seems to be preferred to the benzine automobile on account of its much simpler mechanism, less noisy running, and absence of the unpleasant odor of the benzine motor. Then, too, the public has a preference for all electrical contrivances, and the unfounded fear of explosion by the benzine motor works also to its prejudice. These reasons are sufficient to assure preference for the electric automobile.

The benzine automobile is used principally for transporting heavy loads, where great speed is desired, long and indetermined distances, heavy grades, and where other difficulties are likely to occur; hence its adoption for brewery wagons, drays, omnibus lines connecting railroad stations with inland towns, and for carrying persons and loads in the country. The advantageous use of benzine motors for freight-carrying purposes is made doubtful by the present high price of benzine.

BRAINARD H. WARNER, Jr.,
LEIPZIG, *April 12, 1900.* *Consul.*

* See ADVANCE SHEETS No. 561 (October 24, 1899;) CONSULAR REPORTS No. 231 (December, 1899).

AUTOMOBILE EXPOSITION AT NUREMBERG.

There will be held in the city of Nuremberg, from June 1 to July 1, 1900, a general automobile exposition. It will not be very large, the ground to be covered having an area of but 1 acre, and prizes will not be awarded; but it will nevertheless be very interesting, in showing what German automobile manufacturers have produced of late.

All kinds of automobiles will be exhibited, viz, private carriages, freight cars, vehicles for transporting prisoners, for sanitary and military purposes, fire brigade, fire engine, motor cars, etc.

The machines will not only be shown in the exposition grounds, but also in the city. Races to the neighboring cities of Würzburg, Kissingen, Bamberg, etc., will take place.

Austria has sent some automobiles to this exposition. France, Belgium, and England, renowned for their progress in the automobile industry, could not be induced to take part in it, as they were too much engaged in the forthcoming Paris exposition.

The most important feature of this exposition will be, undoubtedly, the exhibits of the Schuckert electrical factory in this city. A large space has been reserved for this firm, where it will exhibit all its latest inventions in motors, etc., for automobiles. As Schuckert is the leading concern in Germany in this branch, I would especially call the attention of our automobile manufacturers to this exposition.

GUSTAVE C. E. WEBER,

NUREMBERG, *April 11, 1900.* *Consul.*

COMMERCIAL UNIVERSITY FOR HAMBURG.

The Berlin correspondent of the London Daily Mail, in a dispatch to that paper, says:

A movement is being started at Hamburg which should prove of exceptional interest to British commercial and shipping circles.

The very important and wealthy Association of Hamburg Landowners proposes to found a commercial university at Germany's foremost seaport. The institute will have chairs for all scientific and technical branches in any way connected with general commerce.

Besides purely commercial matters, it will include lectures on history, geography, natural history, modern languages, international and maritime law, tropical diseases, shipbuilding, and harbor constructions.

As the new institute will enjoy all rights of the German universities and higher technical schools, it is expected that a large number of foreign students will be induced to attend the lectures.

This programme speaks for itself. Germany has led and is still leading the world in commercial education. For many years, its commercial schools have been preparing young men to go out into the world to take up lucrative and important positions. These young men are selling in distant countries products of the Empire, ranging from a locomotive to a clothespin. Opportunities for industrial enterprise are immediately reported. The German commercial traveler always speaks the language of the country in which he attempts to sell goods. This gives him an immense advantage over his English or American competitor, who as a rule is lacking in this essential qualification. The efficiency of these commercial travelers is to be attributed directly to their training. If we had similar colleges of commerce in our country, it is safe to say that our export trade could be largely increased.

ERNEST L. HARRIS,
Consular Agent.

EIBENSTOCK, *March 30, 1900.*

CABINETMAKING SCHOOL AT MAGDEBURG.

The consular reports of late years contain a vast amount of information on the subject of technical and industrial schools in Europe, and they clearly show that Germany easily takes the lead in this line, by annually appropriating large sums of money for instruction in almost every art and industry. It is generally recognized that commercial progress throughout this country depends largely upon the condition of technical education. Outside of the many schools for agriculture and commerce, the system of special schools for other purposes is wonderfully complete. The tailors, the painters, the shoemakers, the bakers, the smiths, the brewers, the butchers—each trade has its schools for theoretical and practical training.

I recently discovered at Magdeburg a school that roused my interest to an unusual degree. Though somewhat familiar with educational work done in this country, and also with its technical schools, I had never yet seen such an institution. It seemed admirable—so much so that I deem it my duty to call attention to it, as it may interest others. There is no imposing architecture of any kind; no lecture halls, no chapel, no museum, no gymnasium, no campus; there are only half a dozen rooms on the top floor of a four-story building in a narrow side street. It has no faculty of brilliant scholars, but only a few devoted men. There is no liberal endowment by millionaire philanthropists, but a scant support from the Government, hardly sufficient, I was told, to keep body and soul of the institution together.

The school was founded by a Mr. Kiefhaber, a citizen of Magdeburg—a plain mechanic, a cabinetmaker, but a genius at his trade. After having been prosperous in business, he wished to aid young men apprenticed to the trade of furniture making and carving in his native town.

Under Prussian laws youths who, after having passed through the public schools, intend to learn a trade are required to continue attending some school for some nights during the week and for two hours on Sunday. Such schools are called "Fortbildungs-Schulen," a significant but untranslatable term signifying a school where the education is to be continued. Mr. Kiefhaber had, through his own long experience, become convinced that such schools could not accomplish this purpose satisfactorily, because boys at the age of from 14 to 17, after having been hard at work all day long, can not be in a condition, either physically or mentally, to attend school for hours with any benefit to themselves. He therefore conceived the idea of establishing the school above referred to. To accomplish his object, however, he needed the assistance of the Magdeburg union in the line of cabinetmaking, sculpturing, and carving. Their cooperation was granted him to the fullest extent. All the boss mechanics of the cabinetmakers, though most of them are men without any means, and therefore can ill afford to lose even time, agreed to send each of their apprentices to this school for a whole forenoon in every week, and also to take turns in assisting in the work of teaching. As these lessons are given every day from 8 to 12 o'clock, each apprentice in Magdeburg gets four lessons a week, all bearing directly upon his future work.

I believe it is impossible to conceive of anything more practical than the teaching in these classes, of which there are three, as it is a three years' course. No question is put, no fact explained, no definition given, and no drawing made but has some bearing upon either the materials or the tools or the purposes of the combined trades mentioned above. No step forward is taken until the why and wherefore of the preceding step has been fully understood by everyone in the class. And, as in all schools of like character, great stress is laid upon free-hand drawing. This is to give the young men not only all the technical knowledge needed, but also to train the eye and the mind in designing every part of the various styles of furniture, as well as artistic decorations in wood carving and inlaid woodwork. Such work, when added to talent and diligence, must lead to thoroughness and originality.

The young men in the last year's course were scattered all over the room, each standing before a blackboard engaged in drawing some part of a piece of furniture or some ornamental carving, while

the teacher moved about examining the work. Upon inquiry, I was told that this was a lesson reviewing, in an objective way, the oral instruction given by the teacher at the last recitation. I will add that every student was given a different part of the work, so that no two of them had the same drawing to make.

There are only a few salaried teachers employed, while there are always several boss mechanics present, as already stated, assisting in various ways. This must be an excellent way for these men to get and maintain the confidence and respect of their apprentices; for when young people see that their masters are not only able to show them how to handle tools in the workshop, but are also fully capable of instructing them theoretically, it can not fail to have a beneficial influence upon the relations between the master and the apprentices. Surely such teaching unites theory and practice in a wonderfully complete way.

I have already said that the boss mechanics in the cabinetmakers' trade union contribute their own time to this school without any compensation, and also give each apprentice one full forenoon in every week to attend the school. This is a great sacrifice for most of them. Mr. Kiefhaber, the founder of the school, for several years not only devoted his own time to this work, but has paid most of the expenses himself. Surely, not the least interesting feature of this institution is its benevolent object of reaching young people from the humblest walks of life, elevating and educating them so as to make of them good mechanics, artisans, and citizens.

The attention of the Government, both municipal and national, is now being called to the importance of this work, and it is hoped that the institution will soon be placed on a sounder financial basis. I have no doubt that this school, if properly supported and wisely conducted, will, in course of time, build up in Magdeburg an industry which will give employment to hundreds of artisans and mechanics, and bring renown to the city for its manufacture of fine and artistic furniture, as Dresden is noted for its fine china ware, Munich for its works of art, Leipzig for being the great book mart, and so forth.

To an American, this school for apprentices at Magdeburg is interesting, chiefly because it again shows to what an extent intellectual and technical training is carried on in this country, in order to achieve and maintain the foremost position in the industrial world.

HENRY W. DIEDERICH,

BREMEN, *April 4, 1900.* *Consul.*

GERMAN TRADE IN 1899.

Germany's commerce with the world in all commodities except the precious metals amounted to $2,186,744,000 in 1899; in 1898 it was $2,103,444,000; and in 1897, $1,979,208,000. Imports in the last three years were: In 1899, $1,236,886,000; in 1898, $1,209,278,000; and in 1897, $1,114,078,000. Exports in 1899 were $949,858,000; in 1898, $894,166,000; and in 1897, $865,130,000.

The most pronounced decrease in imports was in wheat and rye, on account of the gain in the home production. The importation of indian corn (maize) shows a decided increase. In 1897, Germany imported $20,230,000 worth; in 1898, $29,988,000; and in 1899, $31,654,000 worth. A strong movement is being made by the dealers outside Hamburg, Bremen, and Berlin to bring about some arrangement whereby they can deal with the United States shippers direct, especially in indian corn. A large grain dealer of this city—Herr J. G. Zschacke—tells me that they could do a great deal better if they did not have to deal with the middlemen in Berlin, Hamburg, and Bremen. The importation of hard coal was $33,558,000 in 1899, against $31,654,000 in 1898. Raw cotton decreased from $59,738,000 in 1898 to $55,692,000 in 1899. Wool went up from $71,162,000 in 1898 to $80,920,000 in 1899. Iron ore was imported to the value of $15,470,000 in 1899, against $13,090,000 in 1898. The imports of pig iron were $9,758,000 in 1899 and $4,760,000 in 1898. Of machines, instruments, and vehicles of all kinds, Germany imported $18,088,000 in 1899 and but $14,518,000 in 1898.

The textile industry shows an increase in exports for 1899 of $11,186,000 over 1898. The exports in the iron and machine industries indicate a gain of $17,612,000 for 1899. The export of hard coal was $49,266,000 in 1899, against $49,028,000 in 1898. Drugs and colors decreased from $80,920,000 in 1898 to $64,498,000 in 1899. The export of grain and other agricultural products was $36,176,000 in 1899, against $34,748,000 in 1898. The exports of leather and leather goods were $38,794,000 in 1899 and $35,224,000 in 1898. Earthen and porcelain ware exports were $15,232,000 in 1899 and $14,280,000 in 1898. Sugar exports have decreased from $54,502,000 in 1897 and $50,456,000 in 1898 to $45,695,000 in 1899. This decrease is said to be due to the lessened demand from the United States. The export in sugar to the United States in 1897 was 376,286 tons; in 1898, 219,516 tons; and in 1899, only 153,198 tons.

J. F. MONAGHAN,
Vice and Acting Consul.

CHEMNITZ, *March 27, 1900.*

DECLINE IN RUSSIAN TRADE.

The following is a translation from an article in the Novoe Vremia of the 15th instant, showing the decline of trade in Russia, as well as the causes:

The figures published in the last edition of the financial budget (Viestnik of Finance) of our foreign trade during the first eight months of 1899 show a perceptible decrease of our trading balance. Compared with the same periods of the last two years, the export of goods diminished in 1899 in the following proportion:

	Rubles.
In comparison with 1898	112, 700, 000=$58, 040, 500
In comparison with 1897	54, 500, 000= 28, 067, 500

The imports, on the other hand, increased—

	Rubles.
In comparison with 1898	19, 000, 000=$9, 785, 000
In comparison with 1897	58, 000, 000=29, 870, 000

Our trading balance thus shows a deficit, as is to be seen from the following figures:

Year.	Exports.		Imports.		Balance.	
	Rubles.		*Rubles.*		*Rubles.*	
1897	412,200,000	$212,283,000	337,200,000	$173,658,000	+75,000,000	+$38,625,000
1898	470,400,000	242,256,000	376,000,000	193,640,000	+94,400,000	+ 48,616,000
1899	357,700,000	184,215,500	395,600,000	203,734,000	−37,900,000	− 19,518,500

On examination of the above, we see that in 1899 we have a considerable deficit, namely—

	Rubles.
As compared with 1898	132, 300, 000=$68, 134, 500
As compared with 1897	113, 900, 000= 58, 658, 500

Which no doubt has a very bad influence on the state of our trade and manufactures. It is quite clear that the reason thereof does not lie in excessive imports, but in the considerable reduction of our exports, chiefly cereals, as during the eight months of 1899 the falling off was as follows, compared with the two preceding years:

Articles.	1898.	1897.
	Per cent.	*Per cent.*
Wheat	48⅓	14¼
Rye	35¼	26
Oats	29	63½

It is quite evident, then, that the chief reason of such an unfavorable change in our trading balance is the reduction of our export trade, in consequence of bad harvests of late years. The good crop of 1899 was partly spoiled by rains and was partly used to supplement the stores which had been exhausted by the previous bad years, so that it added but little to the total sum of our foreign assets at the end of August.

All this ought to convince us that the agricultural industry is the chief factor in our commerce. This is evident from the total sum of our export trade. Out of 357,700,000 rubles ($184,215,500), which constitutes the value of the export during eight months of 1899, more than 191,000,000 rubles ($98,365,000)—*i. e.*, 53 per cent, or more than one-half—is derived from food and animal products, while of the remainder, a considerable sum is obtained from the raw and undressed materials, such as olive seeds, flax, hemp, wool, hay, straw, bristles, timber, etc.

It is clear, therefore, that agriculture has not lost its preeminent and widespread significance in Russia.

W. R. HOLLOWAY,
Consul-General.

ST. PETERSBURG, *March 17, 1900.*

OIL PIPE LINE IN RUSSIA.

The first section of the largest oil pipe line in the world for the transportation of refined oil has just been completed, and its operation will be started on the 7th of April, 1900.

The pipe line was constructed by the engineers of the Trans-Caucasian Russian State Railway. The pipe runs parallel to the railway track, which is 560 miles long. It is intended to run it the whole length of the Trans-Caucasian Railway, from Baku to Batum, the first section, just completed, being 145 miles.

The pipe is wrought iron, lap welded, having an internal diameter of 8 inches, and was made in Russia from native materials.

The first section has three pumping stations, each station having two pumping engines, one for continuous working and the second for reserve. The pumping engines are the largest and most important which have ever yet been put to work in connection with the transportation of petroleum through pipe lines. There are six compound high-duty pumping engines with condensers and compensating cylinders, each engine having steam cylinders 21 and 42 inches in diameter, plungers of 8½ inches, all having an uniform stroke of 24 inches. Each engine works against a pressure in the delivery pipe of 650 pounds to the square inch, the steam pressure being 150 pounds to the square inch. Against this heavy pressure of 650 pounds per square inch, each engine will be required to deliver 416,275,200 gallons per year, this being the quantity of oil which will be pumped through this pipe. The contract for the supply and erection of these pumping engines was awarded by the board of the imperial Russian State railways to Mr. W. E. Smith, the Russian representative of the Worthington Pumping Engine Company, of New York and London.

THOMAS SMITH,
Consul.

MOSCOW, *April 6, 1900.*

PREVENTION OF RAILWAY ACCIDENTS IN RUSSIA.

Experiments have been made at Vershbolovo station, on the St. Petersburg and Warsaw road, with an invention of Mr. Nikolaieff, designed both to give warning and to lessen the deadly effects of railroad collisions. Two wrecking railroads were provided—on the first, the sleepers were displaced; on the second, the rails were displaced. In both cases the stoppage was immediate by the aid of this device, without outside assistance and without injury to the moving trains. The essential feature of the invention is an iron tube of usual construction, connected with the general system of brakes and placed in front of the wheels. At the least irregularity in the movement of the train, the tube, in consequence of certain cuts made on it at intervals, breaks, and thus produces an immediate stoppage of the train, locomotive as well. The examining committee found that the tube fully accomplished its purpose. Such an invention is of the greatest importance in Russia, where railroad accidents are a common occurrence. According to the official statistics published by the department of railways, the number of fatal railway accidents in 1893 was 4,548; in 1895, 5,763; in 1896, 6,107.

R. T. GREENER,
Commercial Agent.

VLADIVOSTOCK, *February 20, 1900.*

SPEED OF RAILWAY TRAINS IN EUROPE.

The following is taken from the Journal of German Engineers:

The speed of railway trains is in reality much less than in the popular belief. The reports which from time to time come from the United States would create the belief that a speed of more than 64 miles an hour is absolutely within reach. Recently, an American newspaper reported a trip on a line between Philadelphia and Atlantic City where a speed of even 107 miles per hour had been attained. Even if such reports are true, such forced time is in the nature of a doubtful experiment, and serves as an advertisement for the respective railroads.

If the schedule time of trains is taken into consideration, the French railroads come first, and not, as is usually believed, those of England. The fastest train in the world at present is one of the French Northern Railroad; it makes the distance of 82 miles between Paris and Amiens, without stop, in one hour and a quarter, equal to a speed of about 65 miles an hour. Another train of the same road between Amiens and Calais runs at a speed of 51 miles an hour; another between Paris and Arras and one between Paris and St. Queentin, at 55 miles an hour. The time made on the Orleans Railroad is also fast. Two trains between Orleans and St. Pierre make 51 miles and 57 miles per hour, respectively, and three other trains make more than 55 miles an hour. On the French Southern Railroad, there are

not less than six trains with a speed of more than 56 miles an hour. They run between Bordeaux and Angoulème, Bordeaux and Dax, Angoulème and Poitiers, and Orleans and Tours.

The time schedule of French trains contains not less than ten trains which in distances of more than 62 miles make an average of more than 56 miles an hour.

Compared with this record, the English railroads are considerably behind. The best time of 60 miles per hour is made on only one train between Perth and Forfax, a distance of 33 miles. A train between Perth and Stirling makes about 57 miles an hour; one between Perth and Aberdeen, 56 miles an hour.

The German schedule does not give us occasion to boast of our speed. The German railroad management, by the regulations of 1897, permits as highest speed for passenger trains with air brakes, under specially favorable conditions, 56 miles (90 kilometers) per hour. This is the maximum speed permitted, but the average on even short runs is much less. The fastest trains run between Wittenberg and Hamburg, at a rate of 52 miles an hour; between Stendal and Hanover, 50 miles an hour; and between Berlin and Bitterfeld, 47 miles an hour.

RICHARD GUENTHER,
Consul-General.

FRANKFORT, *April 4, 1900.*

PROPOSED ELECTRIC RAILWAY IN LEICESTERSHIRE.

Slowly, but none the less surely, electric traction is superseding the inadequate horse railways of England, and is even being introduced where these never existed. In a report dated March 14* a summary of the situation as regards Nottingham was made. Another enterprise of similar character has practically culminated in Loughborough, Leicestershire, in this district, a much smaller place, and a brief review of the scheme will probably be of interest to American promoters, manufacturers, and contractors. The scheme is being promoted by the Loughborough and District Electric Traction Syndicate, Limited, with the support of the Brush Electrical Engineering Company, Limited, Falcon Works, Loughborough. The proposed lines are to run from Hathern through Loughborough and Quorn to Mountsorrel, with a cross line in Loughborough from the Falcon Works. The solicitors are Messrs. Le Brasseur & Oakley, of London, and the secretary is Mr. J. McLachlan, Queen Victoria street, London. The engineer is Mr. C. H. Gadsby, M. I. E. E., of London. The commissioners were Lord Jersey, G. C. M. G., and Colonel Boughey, C. S. I. In his opening statement, a solicitor said the total length of the line was 8¼ miles, with a gauge of 3 feet 6 inches. The motive power would be the overhead-electric system. The line commenced at Hathern and ran through Loughborough to Quorn direct. Total population of the district was estimated at 33,450, and of the town 24,000. The cost of the undertaking was

*See ADVANCE SHEETS No. 702 (April 12, 1900).

£111,162 ($540,970), and the capital of the company £150,000 ($729,975). The cost of construction would include equipment. The solicitor added that Loughborough was a growing place and a manufacturing town. At the Falcon Works, there were some 1,500 hands employed, and the construction of the proposed tramways would prove of great utility to these workmen and to others, enabling them to reside outside the town. At present, there was no means of communication between Loughborough and many of the outlying villages and hamlets. The Leicestershire council, he said, was in favor of the "very antiquated" system of underground wires. Grooved girder rails would be used, with concrete, granite setts, or tar macadam. The lines would be constructed on the overhead-electric system, in the usual manner. The cost of construction would, he estimated, be £2,500 ($12,166) per mile on the side of the road; and on the road, with tramway construction, £6,000 ($29,199) for a single track.

S. C. MCFARLAND,
Consul.

NOTTINGHAM, *March 23, 1900.*

ELECTRIC RAILWAYS OF SAXONY.

The statistics of the electric railroads of Saxony, compiled by the royal bureau of electric railroads at Dresden, show a large increase in travel, as well as a very considerable growth in the number of electric-power plants in this Kingdom.

Besides the network of city roads, the Lössnitz line, the road to the "Weissen Hirsch" and Bühlau, the Meissen street railroad, and the Niedersedlitz-Leuben-Laubegaster road have been built.

The following table explains itself:

Names of lines.	Length of lines.		Passengers carried.	Motor cars.	Trailers.
	Kilometers.	*Miles.*	*Number.*	*Number.*	*Number.*
Dresdner Strassenbahn (including leased Lössnitz road of 8 kilometers)	46.638	28.981	25,422,758	219	81
Deutsche Strassenbahngesellschaft in Dresden	29	18.021	16,351,789	130	43
Grosse Leipziger Strassenbahn	53.196	33.056	42,182,543	171	60
Leipziger Electrische Strassenbahn	52.914	32.881	17,763,102	110	50
Allgem.-Local & Strassenbahngesellschaft Chemnitz	23.7	14.727	8,574,966	60	47
Zwickauer Strassenbahn-Actiengesellschaft	5.96	3.704	1,785,887	16	2
Sächsische Strassenbahngesellschaft Plauen	4.863	3.022	1,334,766	15	.....
Schandauer Electrische Strassenbahn	8.3	5.158	124,611	6	6
Meissner Strassenbahn	4.655	2.893	51,958	4	.....
Total in 1899	229.226	142.441	113,592,390	731	289
Total in 1898	177.457	110.272	90,576,266	591	238

Many new contrivances and equipments have been introduced upon the roads of Saxony during the past year. Among them are the triple brake on the cars of the Weissen Hirsch line, as an extra precaution on heavy grades; the heating of the cars by electricity on the Weissen Hirsch and the Lössnitz lines, and the introduction of a device for preventing the strong acid smell in the accumulator cars. The magnetic brake which operates simultaneously on any number of cars, which was first introduced in Dresden at the instigation of the commissioner of electric roads, has been generally adopted throughout Saxony and introduced upon some of the roads of the neighboring states.

BRAINARD H. WARNER, Jr.,
LEIPZIG, *March 26, 1900.* *Consul.*

ELECTRIC TRAMWAYS IN VALENCIA.

As an evidence of the general progress of Valencia, I have to report that the business of the General Tramway Company of Valencia, embracing some 25 miles of rails, has been taken over by a French company, which is substituting electric power for the steam and horse traction hitherto employed.

Electric cars are already running between Valencia and the port, a distance of 3 miles. The system employed is the overhead cable and trolley. The cars are of Spanish construction, and the electric machinery and rails from Belgium.

The dimensions of cars are 7 meters (nearly 23 feet) long and 6½ feet wide. The other lines which the same company will shortly inaugurate to connect Valencia with other places are: Catarroja, 5 miles; Torrente, 4½ miles; Masamagrell, 7½ miles.

The Thompson Houston Company is negotiating for the forty years' lease of some 12 miles of street rails belonging to another street-car company. The Thompson Houston Company also propose to work these lines by electricity, and their offer is being favorably considered. When the result is definitely known, I shall report again.

HORACE LEE WASHINGTON,
VALENCIA, *April 7, 1900.* *Consul.*

DREDGING OF PORT AT VALENCIA.

Owing to inefficient dredging, the entrance to the port of Valencia is no longer safe for vessels of greater draft than 22 feet in calm weather. The bank forming at the entrance is produced by the silting of the River Turia when in flood. The guaranteed depth of both the inner and outer port, constructed at great expense, is 25 to 26 feet.

The port authorities have been aroused to the necessity of action by a pressing memorial from shipowners, agents, and consignees, occasioned by several vessels of large tonnage having recently touched bottom in the entrance channel, and the consequent refusal of the large steamers monthly dispatched from Liverpool to the Philippines to call here on the last voyage.

The commission charged with the care of the port is accustomed to hold monthly meetings. It has, in consequence of the referred-to memorial, gone into permanent session and is energetically working to rectify the evil. Telegrams were dispatched on the 5th instant to principal Spanish ports for dredgers on hire or sale, as the two now in use here are antiquated and insufficient. As none proved to be available, the same telegrams were forwarded to Gibraltar and leading British ports, and to Genoa and Marseilles. I understand the work will be prosecuted immediately, regardless of expense. Until it is accomplished, however, shipmasters should take note of the changed conditions.

HORACE LEE WASHINGTON,
Consul.

VALENCIA, *April 9, 1900.*

NEW CANAL AT BRUGES.

On the 25th day of February, the inauguration of the new canal was celebrated at Bruges, and I am pleased to announce that the first vessel to enter the locks and pass to port was an American bottom with a cargo of lumber from Florida.

The canal runs from Zeebrugge, a port on the North Sea 14.29 miles north of Ostend, to the city of Bruges, a total distance of 7.46 miles. The work is now so far completed that vessels of a draft of 25 feet can enter and pass to the port of Bruges. The locks are fully completed, as well as three-fifths of the wharf wall at Bruges; when finished, the wharf wall will have a total length of 1,575 feet. The canal has a width of 72 feet 6 inches at the bottom and 229 feet 4 inches at the water level and will have, when completed, a depth of

26 feet 3 inches; this will also be the depth of the interior port and of the great basin of Bruges.

Bruges is an old, inland deep-water port, having connection with the sea by canal from Ostend, but this only for vessels of very light draft.

Messrs. Coiseau & Cousin, constructers, have kindly furnished me with sketch of the canal and harbors, which please find hereto annexed.*

RICHARD LE BERT,
Consul.

GHENT, *March 16, 1900.*

BELGIAN NAIL INDUSTRY.

A recent interview with one of the most important nail manufacturers of Belgium elicited the following data relative to the present relation existing between manufacturers and workmen, cause of an impending strike among nail workers, and the crisis through which this industry in Belgium is just now passing. The information may be of interest to nail manufacturers in the United States.

PRINCIPAL SEAT OF INDUSTRY.

Fontaine-l'Eveque, one of five towns in the Charleroi district, is the principal seat of the nail industry in this country.

In March of this year the workmen demanded an increased wage for wire drawers and tack makers in all the works in Belgium, and a 10 per cent increase in wages of workmen of all other categories. This demand may bring about a general strike in all the nail works, as, in the depressed condition of trade, manufacturers are not likely to grant the demands. Besides, it is considered impossible to fix a uniform tariff of wages, as the means of production differ widely in the various factories. Even in the same factory it would be inapplicable, on account of the organization of work, disposition and system of machines, and aptitude of men operating same.

Workmen are all paid by the job and earn the following daily average wages: Nail makers, 4.88 francs (94.1 cents); stud makers, 5.71 francs ($1.102); tack makers, 5.32 francs ($1.026); wire drawers, 5.12 francs (98.8 cents); weighers, 4.54 francs (87.6 cents). Ten and one-half hours constitute a day's labor.

Prices for raw materials have of late risen, with no proportionate increase in the price for the manufactured article. For instance, the stock price for Paris points—slender, round nails—is less than the price of wire rod.

*Filed for reference in the Bureau of Foreign Commerce.

NUMBER AND OUTPUT OF NAIL WORKS.

There are in Belgium, exclusive of two small works situated at Hodimont and Luxembourg, nine nail factories, six of which are at Fontaine-l'Eveque, one at Brussels, one at Marchienne, and one at Gentbrugge; but, owing to American, German, and French competition, Belgian manufacturers admit their inability to place their surplus production on foreign markets heretofore exclusively controlled by them.

The crisis started about two years ago when American goods began to supplant the Belgian article upon the various European markets.

Manufacturers here also admit difficulty in competing against the German nail syndicate, which comprises eighty-six nail works, and which is reported as supplying home orders at high rates and placing its overproduction for exportation at whatever price they can get. It is also said that the German manufacturer is favored by an export premium, and also by the entry duty of 15 francs ($2.895) per 100 kilograms (220.46 pounds) on tacks.

Although the United States furnishes Belgium with wire rod, the difference in price of the cheaper grade American and Belgian article is 5 francs (96.5 cents) per 100 kilograms (220.46 pounds).

At Fontaine-l'Eveque, the annual production of nails amounts to 18,000 tons, 9,000 tons of which are consumed in the country, the surplus—which greatly exceeds the demand—being held for exportation.

Belgian manufacturers realize that markets are constantly escaping them, that the tonnage of exportation is yearly diminishing, and that they will be obliged to curtail production. They regard with especial apprehension the progress made on foreign markets by American manufacturers during the past few years.

GEO. W. ROOSEVELT,
Consul.

BRUSSELS, *April 3, 1900.*

LIQUID FUEL IN EUROPE.

The scarcity and high price of coal have given much impetus to the construction of apparatus for using liquid fuel, petroleum, benzine, and gasoline, and competent authorities are sanguine of success. The advantages of liquid fuel, when properly applied, are obvious. There is no smoke, no stoking, no ashes or cinders, no incomplete combustion; the fire can be started or shut off at a moment's notice; a more even temperature can be maintained than by the use of coal or wood; and the fire can be regulated by the

mere turning of a single cock. There is no dust or dirt, no spacious coal sheds are required, and there is no danger of spontaneous combustion, as frequently happens with coal.

It is claimed that petroleum and its manufactures will soon to a great extent supersede the use of coal for manufacturing purposes, and therefore the supply of petroleum becomes of great importance. Statistics show that the United States and Russia are between them producing, in round numbers, 120,000,000 barrels per year, and that the production of outside countries has of late increased so much that they are able to contribute enough now to bring the world's aggregate annual production to about 150,000,000 barrels. It is well known that the production of Russia is much less now than it might be, owing to the lack of enterprise of the people and to inadequate transportation facilities, which cause the price to be higher even in Germany, adjoining Russia, than that of American petroleum, which has to travel thousands of miles.

What is true of Russia is even more true of Asiatic countries, like Persia. The increased demand will stimulate the exploitation of oil fields in the different lands. Railway companies are trying oil-fired locomotives; one steamship line has adopted oil for firing under the boilers of most of its vessels. When oil was first burned under the boilers, it was introduced through an open trough or gutter, or placed in the furnace in bowls. A new system is now employed and is gaining in favor, whereby the oil is evaporated by being mixed with hot air. This is said to be an improvement on the method of employing a steam jet. Nothing seems to be in the way of a more extensive use of oil for fuel, except the price.

Benzine and gasoline are used to furnish motive power for many different purposes, and their use is constantly increasing. A benzine-worked locomotive, constructed at the Deutz Gasmotor Works, near Cologne, has been running in the third level of the Laurahütte Colliery, in the Kattowitz coal district, for over a year. With the exception of a slight derangement, which was readily repaired, the locomotive has performed its work satisfactorily and without interruption. The locomotive weighs 4,600 pounds; the length is 9 feet 2 inches; width, 2 feet 11 inches; height from rail level, 1 foot 4 inches; and gauge, 1 foot 8 inches. It has 6 horsepower. The actual work performed by the locomotive is the hauling in one trip of from thirteen to fourteen buckets loaded with ore, weighing about 1,375 pounds, or about 120 metric tons per shift. To do this, the consumption of benzine is about 22 pounds and the daily expenses, including interest on investment and sinking fund, wages of engine driver, benzine, and lubricants, are $1.80; so that the cost of hauling 1 metric ton (2,200 pounds) is 1½ cents, against 2⅝ cents with horses.

As the engine is closed on all sides, so that the driver can only get at the interior by using a key, the danger of explosion is practically obviated. No inconvenience from the odor emitted has been experienced by the miners working in the level.

RICHARD GUENTHER,
Consul-General.

FRANKFORT, *March 23, 1900.*

Under date of March 27, Mr. Guenther adds:

I notice in St. Petersburg dispatches that the Russian Government is considering a new mode for leasing oil lands owned by the Crown in the district of Baku, in order to reduce the price of coal oil, which within the last few years has been raised exorbitantly. It is proposed that after 1900, the lessees shall pay to the Government 40 per cent of the oil produced "in natura," so that the Government can become a competitor in the sale of the article. Heretofore, the lessees paid a certain tax in cash on every pound of oil.

PROTECTING SONG BIRDS IN SWITZERLAND.

Switzerland has not many feathered songsters; but those that do exist are carefully protected, not only by law, but by the fostering care of the people, particularly the German-speaking people of Switzerland. In 1875, a law was enacted prohibiting the trapping or killing of song birds, or the robbing or molesting of their nests in any part of the Alpine Republic. But in northern Italy, bird murder is epidemic, and this spirit has spread over the Swiss-Italian Canton of Tessin, where the willow wren, hedge sparrow, black cap, swallow, nightingale, and little singers of all kinds are victims of the trap, the net, and the gun.

As the seasons come and go, the Swiss birds make their pilgrimage south, and in going and returning across the land of northern Italy and the Swiss Canton of Tessin, they are mercilessly pursued by hunters of all ages and all classes. On Lake Maggiore it is estimated that at least 60,000 of the feathered songsters are trapped or killed every year, and in the region round about Bergamo, Verona, Chiavena, and Brescia, many millions are indiscriminately slaughtered to satisfy the demand of the tables and of the millinery establishments of the world.

One of the schemes is to cover the limbs of trees, the rocks, and even the telegraph wires along the line of the bird migrations with a certain paste of such adhesive qualities that whenever the birds stop in their flight for rest or food, they are held helpless

captives; hundreds are often captured in a very small space by this simple means.

During the past year, the border police of Tessin captured and destroyed 13,000 bird traps set to imprison these weary little flyers. Authorities are being urged to take the most rigorous measures to suppress the evil. The criminal courts are having many more bird-law-violation cases than formerly, and bird-catching-and-killing crimes which in former years were either overlooked or punished only slightly are now dealt with seriously. The excellent laws are being enforced, and the song birds of Switzerland may yet survive the attempt to exterminate them.

JAMES T. DUBOIS,
Consul-General.

ST. GALL, *March 19, 1900.*

PRODUCTION OF WINE ABROAD.

Recently obtained statistics give the production of wine in the principal Old World countries as follows:

Country.	Harvest of 1898.	Harvest of 1899.
	Gallons.	*Gallons.*
France	852,817,660	1,265,601,664
Algeria	137,944,259	122,788,540
Tunis	3,170,100	.....
Italy	832,151,250	766,107,500
Spain	653,833,125	594,393,750
Portugal	55,476,750	66,043,750
Azores, Canaries, Madeira	5,943,937	7,925,250
Austria	50,193,250	79,252,500
Hungary	23,775,750	
Germany	47,551,500	52,835,000
Russia	82,422,600	.....
Switzerland	29,059,250	26,417,500
Turkey and Cyprus	42,268,000	52,835,000
Greece and islands	29,059,250	39,626,250
Bulgaria	68,685,500	105,670,000
Servia	21,134,000	.....
Roumania	103,028,250	158,505,000
Total	3,038,514,431	3,338,001,704

Assuming the unreported production of Tunis, Russia, and Servia to have been the same in 1899 as in 1898—that is, 106,726,700 gallons—the total for 1899 for the Old World would be 3,444,728,404 gallons, or an increase of 406,213,973 gallons.

ROBERT P. SKINNER,
Consul.

MARSEILLES, *March 28, 1900.*

BOOK-INDUSTRY EXHIBITION AT GOTHENBURG.

From July 15 to September 1, 1900, there will be held in this city a printers' exhibition, which is expected to be of great interest, not only to printers, but also to the public at large. Besides rare and unique books, prints, etc., which are of value especially to printers, the exhibition will embrace things of interest to everybody, such as artistic book covers, original drawings by Swedish and foreign artists, and a collection of all kinds of products of the graphic art—woodcuts, copper engravings, etchings, etc.

Business prints and job printings will not be included.

The exhibition will be the first of its kind in Sweden. Contributions are expected from foreign as well as from Swedish publishers, printers, bookbinders, libraries, artists, and private book collectors. A feature of great interest will be the expected products of Persian, Servian, Turkish, and other eastern book industries.

It is intended that the exhibition shall offer a comprehensive review of the printers' art and its development from the beginning up to to-day. The greatest attention will be paid to the present status of book printing, and it is intended to show a printing office in operation; and for this purpose, an agreement has been made with a machine firm which will send a collection of presses for common book printing, for colored prints, and illustrations; also, folding machinery, paper cutters, pamphlet binders, a typesetting machine, and a type-molding machine. It is also intended, if possible, to illustrate the progress of the art by exhibiting a printer's shop of the Middle Ages, and a paper factory producing handmade paper.

All inquiries and applications should be addressed to "Svenske Bokindustri-Utställningen i Göteborg, 1900."

ROBERT S. S. BERGH,

GOTHENBURG, *March 22, 1900.* *Consul.*

TRUSTS IN AUSTRIA: INDUSTRIAL CONDITIONS.

The prevailing tendency here is to form trusts in every branch of industry, to the end that the cost of production may be reduced, the market price of the article controlled to a certain extent, and larger profits gained by the manufacturer. While it is conceded that one of the results will be to deprive a number of laborers in different

branches of some of their earnings, by reducing the hours of labor, yet it is claimed that it also results beneficially to the laborer, as it secures steady employment at regular wages; and hence it is declared that a trust is of the greatest good for the greatest number. Another reason for the formation of these trusts is claimed to be the advance in the price of raw material and the increasing competition.

The last trust formed here is by the paper manufacturers, resulting in the price of paper being advanced 25 per cent.

The judiciary department of this Government, aided by the Minister of Commerce, is reported to be working on a general law governing the formation and conduct of trusts.

The coal strike has caused great hardship among the people here during the winter. Supplies were exhausted, and coal which usually sold in Prague at 6.50 florins ($2.64) per 2,200 pounds rose in price to 18.50 florins ($7.52) per 2,200 pounds, and this is only the poorer class—soft coal used for cooking and manufacturers' purposes. Hard coal, which usually commanded a price of 12.50 florins ($5), rose to 28.50 florins ($11.57) per 2,200 pounds and can not be bought at present at any price. This, of course, has caused a great many manufacturers to either close their factories or reduce the working hours and to raise the price of their manufactured articles. Some wealthy manufacturers, however, employing between 5,000 and 10,000 people, when confronted with the choice of closing their factories or losing 1,000 florins ($400) a day by paying the current prices for the coal needed, continued to run with full force, rather than throw their people out of employment.

Complaints are made by manufacturers here of the United States tariff, which they claim shuts them out of our markets. They seem to overlook the fact that the tariff policy in force in Austria is strongly protective, being absolutely prohibitory as to some articles. Take, for instance, iron safes, an article which could find a ready market here, but which, under the duty, it is impossible to introduce. A business man here sent for a price list of American safes and ordered one weighing 1,277 kilograms (2,809.4 pounds). The freight on this safe from Cincinnati to Hamburg was 86 marks ($21.50); from Hamburg to Prague via river route, 26 florins ($10.40); but the duty on the safe was 305 florins ($122), thus making it impossible to bring it into this market against Austrian manufacturers.

HUGH DONZELMANN,

PRAGUE, *March 7, 1900.* *Consul.*

MERCHANT MARINE OF GREECE.*

From the most reliable information obtainable, it appears that the Greek merchant marine was in a flourishing condition until 1870, since which date it has steadily declined in number of craft, but not so much in tonnage or value, as steam vessels of a larger average tonnage are supplanting the small sailing craft of the early and middle portions of the century. I have been unable to obtain the figures giving the total number, tonnage, and value of the vessels now in the Greek merchant service. From 1880 to the present time, the tonnage and value of the steam vessels in the service has rapidly increased; but the tonnage of the sailing vessels has more rapidly declined. In 1881, the tonnage of the steam vessels amounted to but 24,000 tons, while at the present date it is over 96,000 tons. Those best informed upon the subject say that the total tonnage and value of the merchant marine of Greece is still decreasing. The small sailing craft which are used in the coasting trade seem to hold their own, to increase a little in tonnage, and to be doing a profitable business.

No Government measures have been taken to promote the merchant marine of the Kingdom. The Minister of Marine has from time to time appointed committees to study the subject and report upon what measures they considered necessary for the promotion of the mercantile marine, but so far the work of these committees has not borne fruit.

No men-of-war are built in Greece. All of the vessels in the present Greek navy were constructed in English, French, or German shipyards. Greece has no large or well-equipped shipyards—in fact, no shipyard of any size or account.

SUPERVISION AND REGULATIONS.

The department of commercial marine, which is in the Ministry of Marine, has special supervision of the merchant fleet of the Kingdom, and all matters concerning that service must be referred to that department.

The present rules and regulations of the Greek merchant marine were provided by a royal decree in 1836—at the formation of the existing Government. The question of changing those rules by substituting therefor the Italian commercial code has been and is now being seriously considered. A large committee of men from

* The above report is in answer to a Department instruction. For others in the series, see Special Consular Reports, Vol. XVIII.

different branches of the service has been appointed to study the matter, and to report upon the advisability of adopting a portion or the whole of the Italian code; this committee has not yet reported.

MATERIALS.

Greece is obliged to import nearly all of the materials necessary for shipbuilding. Its forests produce timber for such purposes in very limited quantities. The prices of steel plates, beams, etc., for the construction or repair of vessels vary with the supply and demand, and are never much higher than in the markets of western Europe. As above stated, there is in reality no shipyard in Greece; but at Piræus there are some foundries, machine shops, and boiler works that often undertake the repair of the hulls boilers, and engines of vessels.

WAGES.

The average daily wages in these establishments are as follows:

Workers.	Wages.	
	Drachmas.	
Pattern makers	6 to 10	$0.72 to $1.20
Machinists	5 to 8	.60 to .96
Riveters	4 to 6	.48 to .72
Ship carpenters	5 to 6	.60 to .72
Jointers	6 to 7	.72 to .84
Painters	4 to 6	.48 to .72
Furnace men	4 to 6	.48 to .72
Laborers	2 to 4	.24 to .48

One dollar in United States money equals 8.50 drachmas at the present rate of exchange.

The average monthly wages of officers and men on steamships and sailing vessels are as follows:

Class.	Wages.	
	Francs.	
Captains	300 to 500	$57.90 to $96.50
First mate	200 to 250	38.60 to 48.25
Second mate	150 to 200	28.95 to 38.60
Quartermaster	100 to 150	19.30 to 28.95
First engineer	400 to 500	77.20 to 96.50
Second engineer	200 to 250	38.60 to 48.25
Able seamen	50 to 60	9.65 to 11.58
Coal passers	80 to 120	15.44 to 23.26
Second class	25 to 50	4.82 to 9.65

DANIEL E. MCGINLEY,

ATHENS, *March 17, 1900.* *Consul.*

SUEZ CANAL TRAFFIC, 1899.

Vice-Consul-General Hunter sends from Cairo, February 5, 1900, statistics showing the canal traffic in 1899, from which the following has been compiled.

Nationality.	Number of steamers.	Tons, net.	Traffic receipts.
British	2,207	6,628,767.28	$11,658,325
German	378	1,051,149.71	1,627,351
French	223	591,142.72	1,100,610
Dutch	205	438,175.04	777,942
Austrian	102	255,381.48	477,443
Italian	68	132,711.28	247,741
Norwegian	58	122,695.21	216,975
Japanese	62	216,169.51	401,340
Russian	53	167,937.13	350,034
Spanish	37	108,031.77	279,692
Turkish	25	36,282.96	102,129
American	25	64,801.92	136,230
Danish	19	53,145.21	88,409
Portuguese	3	1,287.96	2,242
Belgian	5	12,411.15	19,249
Greek	4	8,438.24	14,662
Egyptian	2	1,920.67	5,283
Siamese	1	538.01	941
Chinese	1	1,443.69	2,508
Swedish	2	591.97	1,036
Total	3,480	9,893,022.91	17,510,142

Mr. Hunter also sends a statement of traffic for the years 1870 to 1898, as follows:

Year.	Number of steamers.	Tons, net.	Traffic receipts.	
			Francs.	
1870	486	436,609	4,345,758	$838,791
1871	765	761,467	7,595,385	1,465,909
1872	1,082	1,160,743	14,377,092	2,774,779
1873	1,173	1,367,767	20,850,726	4,024,190
1874	1,264	1,631,650	22,667,791	4,374,894
1875	1,494	2,009,984	26,430,790	5,101,142
1876	1,457	2,096,771	27,631,458	5,332,871
1877	1,663	2,355,447	30,180,928	5,824,919
1878	1,593	2,269,678	28,345,672	5,470,715
1879	1,477	2,263,332	27,131,116	5,236,305
1880	2,026	3,057,421	36,492,620	7,043,076
1881	2,727	4,136,779	47,193,882	9,108,419
1882	3,198	5,074,808	55,421,039	10,696,261
1883	3,307	5,775,861	60,558,488	11,687,788
1884	3,284	5,871,500	58,628,759	11,315,350
1885	3,624	6,335,752	60,057,259	11,591,051
1886	3,100	5,767,655	54,771,076	10,570,817
1887	3,137	5,903,024	55,995,298	10,807,093

Year.	Number of steamers.	Tons, net.	Traffic receipts.	
			Francs.	
1888	3,440	6,640,834	64,832,273	$12,512,629
1889	3,425	6,783,187	66,167,579	12,770,343
1890	3,389	6,890,094	66,984,000	12,927,912
1891	4,206	8,699,040	83,421,504	16,100,350
1892	3,556	6,832,816	74,459,763	14,370,734
1893	3,342	7,659,558	70,714,833	13,657,963
1894	3,352	8,039,105	73,850,458	14,253,138
1895	3,434	8,448,246	78,158,582	15,084,607
1896	3,408	8,562,237	79,652,326	15,372,899
1897	2,986	7,898,981	72,897,635	14,069,244
1898	3,464	9,186,912	84,094,507	16,230,240

GERMAN TRADE IN SOUTH AFRICA.

It is stated that immense quantities of goods from Germany, more particularly machinery, are being prepared for shipment to South Africa in anticipation of the closing of the war. The agents of several leading firms engaged in trade with which the Transvaal is peculiarly identified are proceeding out to Cape Town, to be able to give their principals the earliest information as to the position of affairs in the Republics and their probable needs when the war is over. It is very generally believed that the settlement will be followed by a boom such as the world has not seen since the days of the gold discoveries in Australia. According to the latest official accounts, the import of German goods has advanced in the following manner:

Year.	Value.		Year.	Value.	
1891	£173,690	$845,262	1895	£828,617	$4,032,465
1892	231,172	1,124,998	1896	1,264,537	6,154,369
1893	295,480	1,437,953	1897	1,054,226	5,130,391
1894	498,758	2,427,096	1898	996,364	4,848,805

All trading countries have suffered equally during the past two years. Of textile goods, mention is only made here of the principal articles which were shipped in times of depression, and this must be taken into consideration in forming a judgment. From German cotton manufactures, £45,643 ($221,123), against £35,589 ($173,194) in 1897; lace manufactures, £1,346 ($6,580), against £1,622 ($7,893); linen and cotton underclothing, £6,947 ($32,096), against £4,420 ($21,251); ready-made clothing, £4,342 ($21,130), against £5,079 ($24,717); hosiery, £23,467 ($114,202), against £15,467 ($75,270); woolen and half-woolen goods, £7,530 ($36,645), against £8,912 ($43,370). Whereas in 1897 the total amount of textiles

shipped by Germany figured at £89,361 ($429,875), the amount for 1898 was £103,000 ($500,250), so that even in the most unfavorable period the traffic in these articles increased. That goods from the United States are given the preference in South Africa, conditions being equal, is unhesitatingly admitted by our competitors. We shall without doubt increase our sales under the possibly altered conditions. It is advisable for our exporters to direct their interest to this market at once. If this is done with a serious purpose, the efforts made are certain to bring forth good results.

GEO. SAWTER,
Consul.

GLAUCHAU, *March 28, 1900.*

COTTON PRODUCTION IN AFRICA AND ASIA.

The arrival in France of several small lots of cotton grown in the French Sudan has excited a great deal of comment among French capitalists, especially among the leaders in colonial work. Specimens of this cotton were displayed at a recent meeting of the national agricultural society. There were present a number of manufacturers of cotton goods—some from other countries—and all manifested a keen interest in the subject. The principal speaker was M. Dybowski, a French explorer, who has spent a great many years in Africa and is considered an authority on that country. I translate and condense briefly from his remarks:

The progress of the production and the manufacture of cotton is calculated to inspire wonder. A century ago, England was the only market to which the world looked for its supply. In 1784, England received the first shipment of 71 bales from the United States. The quantity seemed enormous. English customs officials could not believe that it came from the New World and seized it on the ground of a false declaration of origin. To-day, Uncle Sam produces 10,000,000 to 12,000,000 bales—over 3,000,000,000 pounds. In spite of the impulse to manufacture given by machinery, perfection has not yet been reached. The quality of cotton necessary to receive a uniform dye is still to be produced. The Nogent Colonial Garden has undertaken to improve existing plants through scientific selection, to the end that our colonies may be provided with better seed.

We possess immense areas in Africa where the cotton plant grows as luxuriantly as wheat in the most favored plains of France. To emancipate ourselves from England, which holds, as it were, an exclusive control of this textile, it is only necessary for us to systematize this branch of agriculture in the Sudan, Kongo, Senegal, and the Upper Oubangi. The climate is most favorable, thanks to the strongly marked alternations of dry and wet seasons.

The cultivation should be modified, not by the introduction of American cotton, which thrives indifferently there, but by an improvement of existing local varieties. Our commercial interests know what African cotton is. Thirty tons of it have already arrived here from the Sudan. Fifty tons more are about to be shipped. It is coarse, but that is because it was gathered by the natives from plants over a year old. It should be planted yearly, which can be done by the system of rotation of

crops, if deemed necessary. Cotton is like tomatoes; these two plants may live several years, but the first year's products are the only really good ones.

The best crops of American cotton present striking inequalities, which up to this time seem to have escaped the attention of experts. These differences extend even to the seeds in the same capsules, which may have a good, bad, or indifferent poil. To make a judicious selection, it is necessary to study, one by one, the "silks on the crests." The failure to make this careful study accounts for the inability of the trade to furnish sufficiently uniform cotton. In order to estimate the value of each fiber (poil), its diameter, length, and resistance must be determined. The longer, the finer, the more silken, and the more snarled the poil, the greater its resistance. The diameter is measured by the aid of a microscope. To be of good quality, it ought not to exceed twenty or twenty-one one-thousandths of a millimeter. The resistance is determined by a very ingenious apparatus invented by M. Henri, of the Colonial Garden. It ought to be between 6 and 9 grams. By applying these methods, the savants at the Nogent Garden have succeeding in obtaining the best seeds, which are sent to the colonies for propagation. There is every reason to believe that cotton will soon become a powerful element of wealth for our colonies, and that its culture will be placed in a flourishing condition by the interposition of private enterprise.

The total production of Russian cotton, up to within a few years, has hardly reached half of the total yield of the United States. The output of India does not exceed 3,000,000 bales, and that of Japan is hardly 300,000 pounds. Within a few years, however, Russia has been striving to create an important cotton center in Turkestan, and she expects to secure raw material from that quarter in sufficient quantity to supply the mills of the metropolis. It is difficult at first glance to explain the success here; the climate is severe, the extremes of temperature marked, rain is rare, and the heat is intense. But the extreme warmth of summer intensifies the power of vegetation, and irrigation takes the place of rain.

M. Cornue, another speaker, stated that while he was in Moscow he saw many wagons loaded down with cotton from Turkestan. He thought that in the near future the Empire of the Czars could supply the full demand of the metropolis. The Russians believe that within a few years they will begin exporting cotton goods. The raising of cotton has already created great activity in all the trans-Caspian country.

JOHN C. COVERT,
Consul.

LYONS, *March 27, 1900.*

THE GOLD STANDARD IN BRITISH INDIA.

As the question of the free coinage of silver is still under discussion in the United States, it will be interesting to know the course that has been taken by the government of India in the past seven years on this question and the result of its fiscal policy. In stating the facts, I will try to avoid treading on political or controversial ground.

In 1893, the mints of India, that had previously been open to the free coinage of silver, were closed, except to such coinage as was required by the government to supply the currency for the business of the country; and since that time the exchange value of the rupee has fluctuated greatly, although it has been the policy of the government to establish its fixed value at 1s. 4d. (32 cents), which it has now practically accomplished.

Strong objections were made to stereotyping the rupee at 1s. 4d., on the ground that the normal value of trade required a rupee at a lower sterling value. It was further urged that a rupee appreciated to 1s. 4d. would check exports, and especially would exercise an evil influence on the opium trade with China—a silver-currency country. Besides, the exporters of the products of India contended that it was the interest of the producers to get as many rupees as possible for their products, no matter how much they depreciated, rather than take a smaller amount, on a parity with gold, though intrinsically worth more.

The policy of the government has been carried out under the most adverse conditions, the plague covering many districts, and the failure of rains last year causing a distressing and disastrous famine in large areas; besides, the cotton spinning and weaving industry has been in a more or less critical condition the past year. In spite of these conditions, the total value of trade during the ten months ended December 31, compared with preceding years, has been, in round numbers:

Year.	Imports.	Exports.	Total trade.
1897–98	$244,500,000	$279,500,000	$524,000,000
1898–99	222,000,000	325,000,000	547,000,000
1899–1900	251,000,000	324,500,000	575,500,000

The import trade completely recovered from its depression; but some part of its increase is due to fresh capital coming out to India and the imports of gold in sovereigns from Australia and in yen from Japan.

It was in its effect on the export trade that the enhancement of the value of the rupee was chiefly dreaded; but the figures do not justify the fears expressed, although there has been a serious decline in the export of wheat and of rice, owing—as regards the latter especially, which would otherwise have been exported—to its being required for the famine districts of India. Nevertheless, in spite of this, the decline in the whole volume of the exports is a very small fraction.

But the statistics for opium do not support the allegation that

the enhancement of the rupee and the fall in the exchange of China on India would check the opium trade. The demand has been brisker and the average price higher the past year.

The foregoing shows that the closing of the mints and the consequent enhancement of the value of the rupee have not retarded the export trade of India, as was predicted by those who opposed the policy of the government which led up to the gold standard.

The measure passed the 15th of last September to make gold a legal tender in India was the outcome of the Indian currency committee's report, but the government was subjected to considerable pressure to defer action when the report appeared. It was contended that in making the sovereign legal tender, gold would be hoarded and would fail to reach the government depositories, so that its gradual accumulation would be arrested, and the government would be driven into borrowing for its stock of gold; but the measure was passed, and the result is known. Instead of gold ceasing to reach the government depositories, they have been nearly swamped with it, and the difficulty has arisen from its plethora—not from its scarcity.

The amount of currency reserve on April 1, 1899, was about $10,000,000, and on March 7, 1900, it was about $35,000,000. The amount that had accumulated in London was about $4,500,000, making an aggregate of about $39,500,000.

In a country like India, where it has been the custom of the native population to hoard silver, it will take longer to adjust itself to a gold standard; but it will be seen that the government is accumlating gold, and it is gradually going into circulation, now being a legal tender.

By the action of the government, India has become a gold-standard, and will gradually become a gold-currency, country, as the exchange value of the rupee is now fixed at the rate of 15 rupees to the sovereign ($4.86), or, in other words, rupees are interchangeable at that rate at the government depositories, and, with normal conditions of trade, that rate will probably be maintained.

India, which has been such a vast reservoir for silver, now being out of the list of silver-standard countries, must have an important influence in deciding the fiscal policy of other countries, for her absorption of such immense quantities of silver has ceased, though the rupee will continue to be the currency for the smaller transactions, its exchange value being fixed by the government.

R. F. PATTERSON,
Consul-General.

CALCUTTA, *April 2, 1900.*
No. 238——7.

PROFESSIONAL OR BUSINESS OPENINGS IN KOREA.*

A number of foreigners are already engaged as teachers in the language schools of Korea. There is no present demand for more men for such work. Salaries are about $150 gold per month, and house.

There are a great many physicians and surgeons here in connection with the missions of the various churches. There is no opening for men not so connected.

There is a good field for a young and capable dentist who would be able to compete with the fine work of the American dentists who come here occasionally from China and Japan. By traveling between the Korean ports and gold mines, a dentist would find a fair field for his work, which at present should amount to not less than $1,500 gold, with an opportunity of a good increase. Expenses would about consume the income at first. A reputable firm of American dentists at Shanghai, China, has addressed me on the subject of opening a branch office in Korea, and I would suggest that anyone thinking of coming here for such purpose should first communicate with these men—Messrs. Ivy & Robinson—otherwise the place might be filled before arrival.

There seems to be no demand for mechanical, mining, electrical, or railroad engineers except from the various companies engaged in these lines, who bring out their own selected men. I append a list of these concerns, who may be communicated with direct.

I know of no good business openings here which would offer sufficient inducements to bring a young man from the United States. Such opportunities are usually taken by someone who is upon the spot.

Application for positions might be made to the following:

J. McLeavy Brown, commissioner of customs, Seoul.

Raymond Krumm, chief of survey board, Seoul.

The Oriental Consolidated Gold Mining Company (American), Chemulpo.

The Pritchard-Morgan Gold Mining Company (British), Seoul.

E. Meyer & Co. (German gold mines), Chemulpo.

Collbran & Bostwick, the Seoul Electric Street Railroad and Lighting Company (American), Seoul.

HORACE N. ALLEN,
Consul-General.

SEOUL, *March 6, 1900.*

* This report is in answer to a New York correspondent, to whom copy has been sent.

LAND OWNERSHIP IN JAPANESE SETTLEMENTS IN KOREA.

The question of the right of non-Japanese to own land in the exclusive Japanese settlements in Korea has been a subject of interest to Americans, as land so situated is often very valuable for business purposes, since Japanese settlements usually occupy the most favorable sites at these ports. Americans must occasionally come into possession of such property through the foreclosure of mortgage, and if it can be disposed of to Japanese only its value is lessened. In response to inquiries on the subject, I have secured from the Japanese Government, through Minister Buck, of Tokyo, the following expressions:

NOTE VERBALE COMMUNICATED TO UNITED STATES MINISTER BUCK BY THE MINISTER FOR FOREIGN AFFAIRS OF JAPAN.

MARCH *2, 1900.*

* * * In reference to the above it is to be stated that the exclusive Japanese settlements in Korea have no relation whatever with the new treaties; that the rights relating to land in the Japanese settlements created by the treaty between Japan and Korea are of a different nature from the rights in real property established by the laws of the Empire; and that consequently they are of an entirely different nature from the rights in real property which are enjoyed by the United States citizens residing in Japan; and that for these reasons it is not possible for the United States citizens to enjoy rights in real property in the exclusive Japanese settlements in Korea by virtue of the stipulations of the treaty between Japan and the United States.

Which was further explained to mean that—

The concession confined the holding of property in that settlement to Japanese alone; foreigners could not buy or in any way hold title to any piece of property within the settlement, though an American or other foreigner could take a mortgage on such property; but in enforcing a lien for nonpayment of a debt, the property would be sold only at auction and only a Japanese could buy it in; and that these conditions in respect to the Japanese settlement were different from those of other foreign settlements, except in the Chinese concession.

HORACE N. ALLEN,
Consul-General.

SEOUL, *March 13, 1900.*

BEEF AND PORK PRODUCTS IN KOREA.*

There is no native market in Korea of any consequence for foreign meats, lard, or pork stuffs. The diet of the natives consists chiefly of rice, with fresh or salt vegetables, fish—which abound in the adjoining waters—and beef. The cattle of the country are large,

* This report was made in answer to inquiries by a Chicago firm, which has received a copy.

handsome animals. Stock raising would be a profitable enterprise were it not that rinderpest is endemic. Some pork is used; but the native hogs are miserable, scrawny, black animals, fed mostly on refuse.

The American gold mines at present employ over 50 Americans, and some 3,000 natives and other Asiatics have either direct or indirect employment at the mines. American meats are largely consumed by these foreign (American and European) employees, while the natives are beginning to purchase similar supplies to some extent from the company's stores.

An English and a German mining company are each operating a mining district in Korea, both of which will become more or less heavy consumers of foreign meats.

Aside from the mining population, the Americans and Europeans in Korea will not number more than 500. There are over 15,000 Japanese resident in Korea, as well as a large, shifting Chinese population. These last two, however, get their supplies chiefly from their own countries.

I do not see that special effort will aid in increasing the consumption of American meats in Korea.

Reliable importers of such goods are:

Townsend & Co., Chemulpo, Korea (American).

The O. C. Mining Company, Chemulpo, Korea (American).

E. Meyer & Co., Chemulpo, Korea (German).

Holme Ringer & Co., Chemulpo, Korea (English).

HORACE N. ALLEN,
Consul-General.

SEOUL, *January 23, 1900.*

PATENTS AND TRADE-MARKS IN KOREA.*

Korea has no patent laws or laws covering trade-marks or copyrights. There is no present prospect of legislation covering these subjects. Up to date, I know of no infringement on the part of natives of Korea of patents or trade-marks, though Japanese merchants in Korea have given considerable trouble to an American company by importing Russian and Sumatran oil in American kerosene tins, and selling it as the genuine article at a reduced price. Considerable effort was made to have this practice abolished; but the results were not satisfactory, and the company suffering from the practice had to take measures for informing the native merchants of the fraud, and so enabling them to guard against it.

The Koreans are not a manufacturing people, and there is little

*This report was made in answer to inquiries by a New York firm, which has received a copy.

danger that they will imitate foreign goods or marks, as seems to be the case in the adjoining countries—China and Japan. Protection in these latter countries would probably furnish all the protection required in Korea, as most of Korea's imports come therefrom.

HORACE N. ALLEN,
Consul-General.

SEOUL, *February 17, 1900.*

IRON PRODUCTION IN JAPAN.

Under date of March 9, 1900, Consul Lyon, of Hiogo, transmits a clipping from the Kobé Chronicle, showing a nearly steady increase in the production of iron in Japan during the ten years ended December 31, 1897, the gain during that period having been 83 per cent. The article reads:

The Osaka Asahi observes that the production of iron in Japan, though as yet very small, continues to increase a little every year. The output during the past eleven years is as follows:

Year.	Output.	
	Catties.	*Pounds.*
1887	25,447,163	33,335,784
1888	30,324,069	39,724,530
1889	33,424,569	43,786,185
1890	35,021,756	45,878,500
1891	28,854,906	37,799,927
1892	31,446,663	41,197,128
1893	28,345,663	37,132,819
1894	32,390,394	42,431,416
1895	42,995,663	56,324,319
1896	45,622,369	59,765,303
1897	46,652,275	61,114,480

Since 1897, several new iron mines have been opened, and the production has increased in proportion. On the other hand, the importation of iron also continues to increase, though it is true that last year a heavy falling off was observed, more especially in bar and rod iron, rails, iron nails, and steel, to say nothing of machinery and locomotive engines. The quantity and value of iron and steel imported last year, compared with the preceding year, is as under:

Year.	Quantity.		Value.	
	Catties.	*Pounds.*	*Yen.*	
1898	446,860,700	585,387,511	13,002,591	$6,475,290
1899	234,686,001	307,438,661	11,329,011	5,641,847

The falling off in the importation of iron and steel last year was not due to increased production of the metals in Japan, but is to be accounted for by the depression in the manufacturing industry.

ELECTRIC RAILWAY AND LIGHTING IN VLADIVOSTOCK.

Commercial Agent Greener, of Vladivostock, under date of March 20, writes to confirm his cablegram* in regard to the construction of a street railway, etc., in that city. Mr. Greener sends copy of a letter from the municipal government, as follows:

CITY HALL,
Vladivostock, February 25, 1900.

To the AMERICAN COMMERCIAL AGENT
at Vladivostock.

SIR: It having been proposed to grant a concession for constructing a tramway and an electric-light system in Vladivostock, I send herewith plan of the city, a profile of the Svetlanski and Aleutski streets, on which the probable course of the tramway is traced,† and have the honor to request you to make this known to persons in the United States who are skilled in such work; and, also, to give notice that the question of the construction of a reservoir and waterworks for the city of Vladivostock will soon be brought forward.

NEKRASSOFF,
Member of the City Council.

Mr. Greener adds:

The length of the road will be about 12 miles; no favoritism on the ground of nationality will be shown. Electric power must be used. No time limit has been set for sending in proposals, nor for the completion of the work. The city will be responsible for payment.

It is impossible to state the number of lights that will be needed for illuminating the city.

The new Russo-Chinese Bank building, lately completed, is by far the best equipped building in Vladivostock, and its modern appliances (all the products of American workmanship) have attracted widespread attention. The steel ceilings, steam fittings, electrical works, vaults, safes, wall paper—even the furniture—are American. All this has been brought about mainly through the efforts of Mr. S. L. Epstein, one of the directors of the bank, who has been foremost in encouraging American enterprise.

I have taken pains to show the military governor—General Tchitchagoff—circulars, catalogues, and extracts from American papers bearing upon public improvements in our own country. He has evidenced his appreciation by having me elected a member of the Statistical Society for the Amur and Maritime Provinces. He is anxious to forward all of the projects above outlined.

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*See ADVANCE SHEETS No. 711 (April 23, 1900).

†Filed for reference in Bureau of Foreign Commerce, where they can be consulted by interested parties.

TRADE OF VLADIVOSTOCK.

Commercial Agent Greener, of Vladivostock, under date of March 10, 1900, transmits the following statements of navigation and imports and exports at that port in 1899. Details of the imports, sent by Mr. Greener on February 23, are also given:

Vessels and amount of freight imported in 1899.

Nationality.	No.	Tonnage.	European.	Chinese and Japanese.	Government.	Transit.	Chinese Eastern Railway.	Total.
			*Tons.**	*Tons.**	*Tons.**	*Tons.**	*Tons.**	*Tons.**
Russian	68	64,067	8,977.78	8,309.68	1,402.54	.....	3,670.07	22,360.07
German	81	65,255	31,496.35	19,257.01	1.2	9.37	230.19	50,994.12
Norwegian	22	29,682	20,236.45	1,138.31	13,268.61	.....	1,614.48	36,257.85
Japanese	59	70,876	13,209.48	14,307.03	80.21	.....	80.62	27,677.34
English	33	53,137	20,566.48	3,016.76	21,035.34	.....	30,419.02	75,037.6
American	4	5,393	4,210.9	.....	.....	.....	.....	4,210.9
Austrian	3	3,636	2,372.64	.....	.....	.....	.....	2,372.64
Danish	5	9,963	2,780.04	.....	6,659.52	.....	6,463.98	15,903.54
Chinese	3	3,957	.....	2,269.9	.....	.....	.....	2,269.9
Total	278	305,966	103,850.12	48,298.69	42,447.42	9.37	42,478.36	237,083.96
Vessels of volunteer fleet and those chartered by it.								
Russian	34	113,621	24,314.24	2,975.23	17,673.87	4,524.16	42,885.56	92,373.06
English	1	2,100	824.6	45.05	106	342.5	1,223.08	2,541.23
French	1	3,940	509.4	.....	5	70.6	745	1,330
Total	36	119,661	25,648.24	3,020.28	17,784.87	4,937.26	44,853.64	96,244.29
Grand total.	314	425,927	129,498.36	51,318.97	60,232.29	4,946.63	87,332	333,328.25

*62 poods, Russian=2,239 pounds.

*Details of imports.**

Rice	bags...	125,388
Flour	sacks...	1,062,245
Cement	casks...	145,316
Coal	tons...	37,844
Seaweed	bundles†...	309,596

Summary of imports and exports.

	Tons.
Total import	333,328.25
Total import transit	4,946.26
Total export	18,600.42
Total export transit	4,589.41
Grand total	361,464.34

*Summarized from tables sent by Mr. Greener.

†Each bundle equals about 43.6 pounds.

THE SIBERIAN RAILWAY.

Mr. Khilkoff, Minister of Ways and Communications, had a special train sent to him on the Great Siberian Railroad some months ago. There were five coaches—one first-class, two second-class, one dining, and one baggage car. All the appointments were excellent. There were, besides the usual library, pianos, writing conveniences (found in American cars), a barber shop, a gymnasium, a good supply of ice, patent water boilers, dials which indicate the next station and the length of stop, double windows to protect from dust and the extreme Siberian cold; and an observation car at the rear. On this train were attendants speaking English, French, and German. The cars are lighted throughout by electricity. There is no charge for the barber or for medical attendance. The bath costs 2 rubles ($1). From St. Petersburg to Irkutsk the transit occupies about seven days; from Moscow, about six; and from Paris, not more than twenty-eight days.

The total length of the line to Vladivostock will be 4,714 miles. The cost will be $400,000,000.

The section just completed as far as Stretinsk is important, because it marks the connection with Vladivostock, some 1,500 miles, and gives a continuous all-rail travel of over 5,000 miles from Moscow. As is well known, there will no longer be any necessity for skirting the Amur by railway, since the acquisition of transit rights in Manchuria gives an almost straight line from Stretinsk, via Tsitsikar, Harbin, Nikolsk, then south a three hours' ride to Vladivostock. The last rail on the Moscow-Stretinsk division was laid December 28, 1899.

Lake Baikal is as long as England, covers an area of 12,430 square miles, and is the formidable obstacle to be overcome. It is 1,561 feet above sea level, has a shore line of nearly 1,200 miles, a depth varying not less than 819 feet on an average, and a distinct ebb and flow. Four thousand five hundred feet have been sounded, and in one instance 4,900 feet is the record.

After crossing Lake Baikal—by rails over the ice in winter, by boat in summer—the road ascends the Yablonoi Mountains and attains its loftiest elevation, 3,412 feet above sea level. From this point it descends to the Amur.

As at present planned, there will be three branches, all via Harbin; to Nikolsk, via Vladivostock; to Pekin, via Mukden and Niuchwang; and to a point not yet given out. The Nikolsk-Harbin branch is rapidly going forward from the Nikolsk terminus, and that to Mukden is now complete.

Two travelers, who have made the overland journey, arriving at Vladivostock within a week, were six weeks from Moscow, including a stop-over of nine days. About the food, there are varying reports. Some say even at remote stations the restaurants are excellent, with substantial dinners at 50 cents; others say the charges are extravagant. It depends much, I imagine, on the philosophy and patience of the traveler. My own experience on the Ussuri branch to Khabarofsk is good food, reasonable prices, and every attention. The entire road is divided into sections of two-thirds of a mile each. At each station is the cottage where the station master lives with his family and the guards. Between the Urals and Tomsk, there are said to be nearly 4,000 of these guards. When travelers speak in a critical manner of the number of "soldiers" found on the cars and along the road, it is to be remembered that it is the same as if our conductors, brakemen, and flag and switch men all wore the same uniform.

Word has just been received that the administration of the Central Siberian Railroad intends to do some good work in shaping up the line and increasing the speed according to plans fully matured. The cost of this work will be about 55,000,000 rubles ($28,325,000), and the varied improvements will require seven years.

From Ob to Irkutsk, 1,754 versts (1,163 miles), the following programme will be carried out: (1) All the rails will be changed; (2) all wooden bridges will be replaced by iron ones; (3) stations and crossings will be widened; (4) several new crossings will be constructed; and (5) passenger accomodations will be provided, as well as houses for railroad employees, freight warehouses, provision stations for the army and also for immigrants.

R. T. GREENER,
Commercial Agent.

VLADIVOSTOCK, *February 20, 1900.*

GOLD IN QUANTUNG PENINSULA.

It was recently published that an engineer had discovered rich gold mines in the Quantung Peninsula, and that Port Arthur itself stood on ground unusually rich in auriferous deposits. It may now be said that all such reports are greatly exaggerated, and this particular officer found no gold at all; only some quartz, whose gold-bearing qualities are yet to be tested.

The mining engineer, Bagdanovich, sent to Quantung by the Ministry of Government Land and Property, has prospected in that region, but the results are not as yet officially published. It is known here, however, what some of his conclusions are. He proved the presence of gold in three qualities—beach sea, placer land, and

quartz in veins. In the last, he found visible ledges of quartz containing free gold. In the gold sand of the first quality were found separate parts of the precious metal or nuggets. In the gold sand of the sea mining, 8 miles from Port Arthur, a gold nugget weighing one-fourth of a pound was found by three Chinese workmen; but they prudently divided the nugget into three pieces and disappeared in as many directions.

It is rather early to say anything definite, but there is no doubt that there is gold in the Quantung, for the administration has taken the precaution to establish a strict guard, and has prohibited mining until further orders are received from the Ministry of Agriculture and Government Property.

R. T. GREENER,
Commercial Agent.

VLADIVOSTOCK, *February 20, 1900.*

POSSIBILITIES OF THE CHINESE MARKET.

As I have remarked in previous reports, the demand for information respecting the possibilities of introducing American goods of all descriptions into China has been steadily growing. In spite of all that has been written and published on this subject, there seems to be a most lamentable ignorance even among the largest American firms as to the requirements, possibilities, and even geography of this coast. My mail has become so large that I find it not only a task, but almost an impossibility, to give it the attention it really deserves. The fact that four-fifths of such letters ought never to have been written, and that the inquiries could have been answered by a reference to a common-school geography, hardly justifies the consignment of them to the waste-paper basket, as they were evidently written in good faith. I have prepared a general reply which covers a large percentage of the questions propounded, to which, if the Department sees fit to publish it, I can refer future inquirers, thereby saving my time and the necessity of answering the same questions a hundred times to as many different people.

COTTON GOODS.

If properly placed before the Chinese, American cotton goods will obtain the same foothold in southern China that they have in northern. The present importations are not nearly sufficient to meet the requirements. It must be borne in mind that the Chinese never wear wool—not even in the depth of winter; that, generally speaking, the entire population clothe themselves in cotton all the year round. Their bedclothes, umbrellas, and, in a few instances, boat sails are made of cotton, and the consumption is practically unlimited

if they are made in accordance with native requirements. The cloths should be a strong, coarse, unbleached cloth, 22 inches wide, retailable at about 5 cents gold a yard, or 36 cents gold per piece of 9 yards. There is also a virgin market for a cotton cloth which, tanned or otherwise treated, would prove rain proof. All cotton goods would have to be put up in lengths to suit the peculiar requirements of the trade for which they are designed, and such details could best be learned after having made a trial shipment. As I have pointed out before, it is impossible to do business with Chinese by correspondence, and the most that a consul can do is to supply a hint.

CUTLERY AND HARDWARE.

The Chinese have not yet learned to appreciate a well-finished tool of any kind and will not pay the extra expense of finishing, and the only tools that they require seem to be those that they can not actually do without—such as razors, cheap knives, scissors, needles, saws, chisels, etc. For these articles, the demand is very great, and the entire question is whether we can manufacture them cheaply enough to meet their requirements. In the question of razors alone, there would be a tremendous market, as all Chinese shave their heads as well as their faces. Germany is supplying a great number of these, and there is no reason why our makers should not have their share of the trade. The demand for better qualities will increase as the Chinese learn to appreciate a superior article; but, to commence with, we must make according to the Chinese model. Of course, knives and forks are entirely out of the question, as I do not believe they will ever supersede the use of the chopsticks. Nails find a ready market. They should be packed in kegs weighing 133⅓ pounds (1 picul). Nails packed in smaller quantities would suffer loss, on account of the peculiar method of collecting customs duties. Nails for this market are never packed in canvas or bags. The keg itself possesses a value to the purchaser, and the better the keg the better the chance of commanding a market. No scrap, however small, is wasted by the Chinese.

LAMPS.

American lamps are admitted by all to be the very best that reach this market. The consumption, however, is very small, as they are too high priced to meet with any favor among the great body of consumers. The trade is, of course, among the Chinese, who are not particular as to the finish or general appearance and regard their illuminating powers of very minor importance. Even were a first-class American lamp to be bought by the great majority of Chinese, they would use such an inferior quality of oil as would negative its

superior qualities. This is due to the system of adulteration carried on by the original buyers before it is sent into the interior. There is, however, a very great market here for the cheap German and English lamps, selling for from 30 cents to $1.50 Mexican (14 to 69 cents). The consumption of these lamps is almost unlimited, reaching to hundreds of thousands yearly, being packed inexpensively and shipped by cheap lines of steamers via Suez or sailing vessels around the Cape. No doubt, such lamps could be manufactured in the United States from samples—made better and sell cheaper.

BOOTS AND SHOES (LEATHER AND RUBBER).

I consider that there is no market on this coast, nor can one ever be hoped for, in these articles. Chinese do not wear leather or rubber shoes of European style. All Chinese, except the coolie class, wear shoes of cloth, with thick felt soles, faced with leather, and of their own peculiar shape. These are made locally and are very cheap. As to American-made shoes for Europeans, Chinese can imitate them for much less than their import price. For example, the writer bought a pair of patent-leather shoes in San Francisco for $8.50 gold. He has had an exact copy made of that pair of shoes three times at a cost of $3.50 Mexican ($1.60 gold). They are in every way as good, handsome, and serviceable as their originals, being made of English leather. Rubber goods are, of course, entirely out of the question in this climate.

AMERICAN BUTTER AND CANNED MILK.

See my report published in CONSULAR REPORTS No. 211, April, 1898 (ADVANCE SHEETS No. 44, February 23, 1898).

AMERICAN GINSENG.

See CONSULAR REPORTS No. 211, April, 1898 (ADVANCE SHEETS No. 53, March 5, 1898; also ADVANCE SHEETS No. 695, April 4, 1900).

BRUSHES AND BROOMS.

Far too expensive to admit of any sale. Chinese brooms are made for from 1 cent upward.

AMERICAN TOBACCO AND CIGARS.

Almost nil; and I can hold out no hope for the future, as our tobacco will not keep in this climate. It loses both its strength and flavor. The wants of all classes are fully met by the Manila product, and first-class cigars can be bought for 1 cent Mexican upward.

STOVES AND KITCHEN HARDWARE.

These would only be used by Europeans, of whom there are not more than three hundred families at the outside. Cooking of all kinds is done by the Chinese on ranges made of brick and clay, and wood is used almost entirely. The cooking quarters are detached from the houses, so that no fumes from the fires or from the cooking ever enter the residences. In the writer's cook house, one of these styles of ranges was in use for three years and gave, so far as he knows, as great satisfaction as the American stove he now has. Of course, they cost almost nothing, and, as long as labor is so cheap, these primitive ranges will probably remain generally in use. The cooks in all European and Chinese families are Chinese, and their cooking utensils are very simple and inexpensive; a few cents buys almost any article they use. Unless one really wants European crockery and tableware, all wants can be supplied at a very small cost from the Canton manufacturers. Chinese-made porcelain dishes are both handsome and unique. I consider them better than the Japanese.

BRASS AND IRON BEDSTEADS.

There is a small market for these articles among the Europeans; but, as they are practically indestructible, and as it is the custom whenever a European leaves the colony to sell his effects at auction, the same bedstead will serve a number of generations. The Chinese never use them. Their style of bed is as peculiar to them as are their queues, and you might as well ask them to change the one as the other.

MUSICAL BOXES AND MUSICAL INSTRUMENTS.

There is no demand whatever for these among the Chinese. Beyond the purchase of an occasional box, set to Chinese tunes, as a present to some high official, there is no sale. Their own instruments are cheap and peculiar to themselves. No veneered work will stand this damp climate.

CRANK SHAPING MACHINES FOR PLANING IRON AND STEEL.

There is practically no market for machines of this class in this market or on this coast, and the only users of such machines are the several dock companies in China. In this city, the Hongkong and Whampoa Dock Company has three large dry docks and one large workshop, in which all of the modern tools are utilized. Its Kowloon dock will receive ships of the class of Her Majesty's ship *Powerful*—nominally 15,000 tons—but declines to accept ships of the *Victorious* class, except at the ship's risk, as she has 75 feet beam. It might be possibly worth while for American manufacturers to write direct to this dock company, inquiring if there would be any

possible hope of their bidding on tools such as it might require. I do not think ordinary circulars would have any effect, as all its tools and machinery are bought in England. In this connection, I may add, for the information of parties wishing to sell paint for ships' bottoms, that all paints so used by the dock company are purchased locally from among the many antifouling patents, the special kind being such as may be directed by individual shipowners. The dock company consequently keeps no stock. The principal dealers in these paints are Blackhead & Co. and Lane Crawford & Co.

ENVELOPES, WRITING PAPER, AND PAPETERIES.

There is practically no market here whatever, for two reasons: First, what envelopes are required by the European community have to be manufactured here by local stationers, as the foreign ones come here all stuck together and can not be opened. I would suggest that more dryers be used in the preparation of the gum for envelopes. But the main reason why American-made envelopes and paper can never gain a market among the Chinese is that they never use our style of envelopes or paper. Theirs is manufactured from a peculiar kind of bamboo paper, is porous and readily absorbs their ink (known as india ink), thus entirely doing away with the use of blotting paper.

TYPE AND PRINTERS' SUPPLIES.

There are three English newspapers in Hongkong—the Daily Press, the China Mail, and the Hongkong Telegraph—that have average daily circulations of about 500 copies. There are four Chinese newspapers with circulations varying from 1,000 to 2,000 copies daily, and one Portuguese paper with a circulation of 100 copies per day. In addition to these, the government publishes a gazette weekly of 355 copies. Taking into consideration the size of the circulation of these publications, it will be readily seen that a renewal of type and machinery would be required only at long intervals. The leading printer and book publisher is a Portuguese firm under government supervision—Noronha & Co.—and I do not think there would be very much chance for Americans to sell any portion of its supplies thereto. There are other English job printers and quite a number of Chinese, but the latter usually buy up old type and wear them completely out. I can not advise our manufacturers of printers' material to send this colony specimen books or circulars and price lists.

PUMPS AND HYDRAULIC MACHINERY.

The waterworks system of the colony is owned and controlled by the government, and the reservoirs are situated at such an altitude in the hills that only a very small portion of the city is supplied

by pumps. These are of English make and are bought by the Home Government. The only other use for power pumps is for pumping out the docks; some small ones are also used aboard vessels. I have already referred to this dock company by name. It is barely possible, with the opening of the Kowloon extension, that there may be a demand for pumps and hydraulic machinery, as well as other supplies; but, of course, all this will be reported upon at a later date. At present, there is no field for this class of supplies in the colony or in southern China.

TYPEWRITERS.

This branch of industry is kept constantly before this consulate in the shape of printed matter descriptive of the various makes of machines, all claiming superiority of manufacture and usefulness. These manufacturers are actuated by a laudable desire to extend the field of their sale, and distribute mimeograph copies of a stereotyped letter broadcast over the world, propounding a long list of interrogations, to which they ask reply. None of the authors of these letters has the least idea of what a very small field this is. The English, as a rule, are not as liberal users of typewriters as either the Americans or the Germans, and in those government departments that make use of writing machines the wants are supplied by the Foreign Office in London, no purchases being allowed locally. The colony has been thoroughly canvassed, and its wants in this respect have been fully met. Very few Chinese (only those employed by Europeans) know sufficient English to allow of the use of writers, and the peculiarity of the Chinese language, with a separate character for each word, will not admit of a machine being manufactured specially for them. This community is so very small that there never will be a sufficient demand for typewriters to render a special agency for the sale of machines profitable. Those who control an agency do so in conjunction with their other business, whatever it may happen to be; and, owing to the damp and trying climate, neither manufacturer nor agent would care to have more than a very limited number on hand at any one time. There is an occasional sale of a stray machine, but not sufficient to make a business of. The United States Government in Manila uses them in several of the departments. The machines have been brought out as required. There may spring up a small demand, as the present ones wear out.

GARDEN AND FLOWER SEEDS.

In answer to numerous inquiries on this subject, I may state briefly that any effort to introduce the seeds of one zone into another is practically useless. In Hongkong, this is doubly true, as the nature

of the soil is such that gardening is almost impossible. The products of such gardens as there are here and on the mainland are consumed by the Chinese, and their vegetables are distinctly peculiar to their own taste. The only flowers that the Chinese are partial to are flowering shrubs native to this climate.

BICYCLES.

Owing to the publication of my report on "Bicycles in Hongkong" in the ADVANCE SHEETS OF CONSULAR REPORTS No. 321 (January 11, 1899),* I have been deluged with letters from bicycle firms claiming that they can supply a high-grade wheel at a price which will suit this market. One firm sent a consignment to a member of my force, asking him to turn them over to some firm to test the market. The sixteen wheels were laid down here, including freight and charges, at $57 Mexican (about $26 gold) each. They were placed on exhibit with one of the leading firms, and were thoroughly inspected and tried by all classes of buyers. The manufacturer unfortunately did not care to place his own name plate on the machines, which cast suspicion upon the lot at once and destroyed the main fact that we wished to bring forward—that they were American goods. Being without parentage, their sale could not aid an introduction of future consignments. It would not have been necessary for the firm to have placed its own name on the wheels; any name would have done, as long as they were good wheels and the legend "made in America" appeared. The main fault found with the wheels right away was that the handle bar was so low that the rider had to lean forward. Cyclists in this climate are not "scorchers," and like a high handle bar and a comfortable seat. The tool bags were not sufficiently complete; and, as it is dfficult to obtain supplies here, this item was of more importance than it would have been had the buyers been nearer the factory. Another defect in a number of the wheels was that the tires were found punctured in places, owing to imperfect finish of their terminals. Some of the tires, too, had a series of minute air holes, pronounced to be due by experts to flaws in manufacture. These tires admitted of being pumped, but quickly ran down. This possibly would not have been a serious matter, had the wheels been near the factory. Three of the wheels were finally sold at $90 Mexican ($42.57) each, and the balance were turned over to an auction firm and netted $60 Mexican ($28.38) each; so it will be seen that the only thing that was realized from their sale at this end was—experience.

If bicycle manufacturers will read this brief paragraph in connec-

* Also in CONSULAR REPORTS No. 222 (March, 1899).

tion with my previous report, already referred to, and show this market that they are not ashamed to place their own name on machines, I believe it would be possible to open a small but growing agency. It will be some years before the Manila market will consume many machines, as the country is practically destitute of roads. So far, however, nearly all the machines in use there have been purchased in Hongkong. Bicycle firms might correspond with the following Hongkong firms: Kruse & Co., William Schmidt & Co., the Dragon Cycle Company, and F. A. Blake & Son. However, as I said before, nearly all firms in this city keep a few bicycles in stock.

TINWARE, TOOLS, AND MACHINES.

There is practically no opening for this class of goods in China. Cheap unglazed earthenware, in a great measure, takes the place of tinware in other countries. The tin that is used for small household articles is made up by hand, with the aid of a pair of shears and a soldering iron. Of course, there is a considerable amount of sheet tin imported, and the thousands of kerosene tins that pass through the hands of the hawkers also find their way to the tin shops. There is no canning industry among the Chinese. All of their sauces and compotes are preserved in earthenware jars, or in old wine and beer bottles. What tools they have are very crude and are made locally at a small price, and there are no shops that make a business of dealing specially in them. The time has not yet arrived when foreign tools of any class can be introduced among the Chinese. Within the last year, an American firm made a shipment to Hongkong embracing a complete assortment of modern tools. They were accompanied by a representative. After coming here and testing the market in an intelligent way, he gave up the enterprise and reshipped all his tools to the United States. As I have said before, as long as labor remains at 10 cents a day, stones will be quarried, timber sawed, bricks made, piles driven, and goods transported by hand. Machinery at present can not compete with cheap labor, and the only tools that gain a footing on this coast are those of warfare, and even these are of the cheapest kind.

DRUGS AND MEDICINES.

All medicinal preparations intended for sale among the Chinese would have to be made up at some point on this coast and introduced among the Chinese by sample bottles. Ordinary advertising matter is of no avail; a Chinaman believes only what he experiences. The native drug houses adopt this method of bringing some patent specifics to the notice of the trade. Necessarily, the labels as well as

wrappers would have to be in Chinese. Tonics, of which quinine is the principal ingredient, will sell in large quantities. Embrocations for neuralgic and rheumatic affections—in fact, anything for fevers, worms, coughs, dysentery, constipation—would have a ready sale if properly put up and introduced. There is, however, no hope for the introduction of the ordinary American patent medicine in its original wrapper.

SOAPS AND SCENTS.

I consider that this a good market for both these articles. Both soap and scents should contain coal tar, musk, or patchouli. The scents should be put up in very cheap one-fourth and one-half ounce stoppered bottles and wrapped in yellow or red paper, lettered in Chinese. If an enterprising manufacturer would go into the market to win and distribute a few thousand dollars' worth of samples in Canton, he would soon build up a trade that would astonish him.

SWEETS AND CANDIES.

There is a limited market for sweets; but candies as understood by Americans are not yet known, and it would be almost impossible to introduce them, as they would not keep in this climate. Lozenges flavored with musk, rose, ginger, peppermint, and wintergreen, if packed in cheap, stoppered bottles, would sell; also, stick candy.

SEWING MACHINES.

There is a small sale of a cheap, durable sewing machine that will sew either cloth or leather. At present, the Singer Sewing Machine Company controls what market there is here, and its machine gives general satisfaction. The machines should be either hand or pedal. As soon as southern China is more thoroughly opened, the demand for sewing machines will increase, and the first in the field will have a tremendous advantage.

COMMERCIAL TRAVELERS.

Before closing, I do not think it will be out of place to again answer the many questions as to what character of commercial man would best serve the interests of American exporters to this coast. As I have said before, there is only one class of man that can command the confidence of the big firms here, and that is a gentleman who can associate with gentlemen on equal terms, and who is either a member of the firm he represents or brings letters to the leading banks here that will guarantee any statements he may make. Three years ago, a bright commercial man arrived in this port with letters

of introduction to me. I in turn gave him letters to the leading firms here. He secured a large number of trial orders. When the goods arrived, they were not up to sample. A year later, the same man called on these same firms soliciting further orders. On having his attention called to the fact that his goods were not as represented, he laughingly replied that he could not help it; that he was no longer representing that firm, and consequently felt no responsibility in the matter. This kind of thing speaks for itself.

LEADING BUSINESS FIRMS IN HONGKONG.

Butterfield & Swire, and Jardine, Matheson & Co., largest import and export firms on this coast.

F. A. Blake & Son, American commission agents.

G. Girault, retail grocer.

Lane, Crawford & Co., retail grocers and ship chandlers.

More & Simund, retail grocers and ship chandlers.

Blackhead & Co., retail grocers and ship chandlers.

H. W. Powell & Co., retail dry goods.

Kelly & Walsh, retail booksellers and stationers.

W. W. Brewer & Co., retail booksellers and stationers.

Kruse & Co., tobacco and bicycles.

William Schmidt & Co., arms and bicycles.

W. Falconer & Co., watchmakers and musical instruments.

Robinson & Co., pianos and musical instruments.

Gaupp & Co., jeweler and optical instruments.

Shewan Tomes & Co., general merchants.

Arnhold Karberg & Co., general merchants.

Carlowitz & Co., general merchants.

Melchers & Co., general merchants.

Grossmann & Co., general merchants.

Hughes & Hough, coal, share, and general brokers.

E. C. Ray, ship, share, and general broker.

Hongkong Hotel, leading hotel.

Hongkong and Shanghai Banking Corporation, leading bank.

Chartered Bank of India, Australia, and China.

Hongkong and Whampoa Dock Company, wire rope, marine engines, etc.

In addition to these, there are a number of reputable native firms who buy to supply the native requirements in the interior, and of whom the Europeans know nothing and, from inability to speak any of the many dialects, are wholly unable to reach. However, these firms buy in small quantities, from hand to mouth. It is contrary to Chinese policy to carry large stocks. As these men speak "pigeon English"

and are the only ones who can approach the European importer, they are enabled to maintain this policy. They learn from time to time just what stocks the Europeans have on hand, and when they find these accumulating, this handful of men combine and hold off, well knowing that the European merchant must ultimately sell to make room for fresh importations, and so buy at their own prices. Regarding the European firms here, as a general rule, they do not care to do a commission business, except on goods that are not perishable and have a ready sale. It can be readily understood that this market can only take certain things, and that if goods are promiscuously shipped here, there would in time be an accumulation of imports that could be sold either not at all or at a loss which would prove most disastrous to the exporter.

It must be borne in mind that a large majority of goods that might be fairly salable here are, from the nature of their construction or manufacture, wholly perishable in this hot, damp climate. Any article in the manufacture of which glue is used and articles of gutta-percha and rubber quickly go. As an instance, all gummed envelopes that arrive from America reach here completely stuck together and are rendered almost entirely useless, while those from England have dryers used in their composition.

ROUNSEVELLE WILDMAN,
Consul-General.

HONGKONG, *February 19, 1900.*

QUININE AUCTION AT BATAVIA.

The first auction sale of quinine was held at the Merchants' Exchange, at this place, on the 28th of February, 1900, there being present some fifty bidders. The sale was considered a great success, prices realized being considerably higher than anticipated. The sale commenced with Edition II, as follows:

Seventy-three cases, each containing 12 tins of 1 kilogram (2.2 pounds) of quinine, sold in lots of 2 cases, 22.95 to 23 florins ($9.22 to $9.25) per kilogram.

Thirty-nine cases, each containing 4 tins of 3 kilograms (6.6 pounds) of quinine, sold in lots of 2 cases, 22.95 florins ($9.22) per kilogram.

One hundred and forty-nine cases, each containing 4 tins of 2.835 kilograms (6.3 pounds) of quinine (English packing), sold in lots of 2 cases, 23 to 23.45 florins ($9.25 to $9.43) per kilogram.

Further, there were 720 kilograms (1,587 pounds) of loose quinine (unpacked) at the factory at Bandoeng, sold in thirty lots at 22.95

and 23 florins ($9.22 and $9.25) per kilogram, packing to be done by the factory and buyer to say what kind of packing was required. If in bottles (Dutch packing), buyer to bear part of the cost of the packing. Closing, there were 240 kilograms (529 pounds), Edition III, loose (unpacked), at the factory, sold in ten lots and to be packed in any manner required by the buyer. The first seven lots were sold at 28 and 28.05 florins ($11.26 and $11.28) per kilogram; but the last three lots, not bringing this price, were bought in by the factory.

The total sales amounted to 3,753.66 kilograms (8,275 pounds), Edition II, average 23.24 florins ($9.34) per kilogram; 192 kilograms (423 pounds), Edition III, average 28.01 florins ($11.26) per kilogram.

B. S. RAIRDEN,
Vice-Consul.

BATAVIA, *March 2, 1900.*

TRADE OF SAMOA, 1899.

Consul-General Osborn writes from Apia, March 19, 1900:

I transmit herewith a statement of the imports and exports at the port of Apia for the year ended December 31, 1899; also, a return of vessels entered and cleared at the port for the same period.

Notwithstanding the troubles of last year and the "devastations of war," both imports and exports by far exceeded those of any previous year.

I think the figures for January and February may show a still greater increase, though possibly not, for the reason that, on account of storms and bubonic plague and quarantine regulations, much cargo has not been landed.

Imports and exports at Apia in 1899.

Country.	Imports.	Exports.
Germany	$78,194.84	
Great Britain	6,008.00	$150,405.00
United States of America	89,037.00	38,357.50
Other European ports	1,190.00	
Australasian colonies:		
New South Wales (Sydney)	200,628.13	127,188.75
New Zealand (Auckland and Westport)	128,623.56	137,671.25
Fiji	1,256.00	252.00
Tonga	12,483.00	16,200.00
Other South Sea islands	5,593.75	2,443.00
New Britain (Mioka)	668.00	3,364.00
Hawaii (Honolulu)	222.00	903.00
Russia		39,273.75
Azores		194,038.75
Total	523,904.28	442,276.00

Vessels entered and cleared at the port of Apia, Samoa, during the year ended December 31, 1899.

INWARDS.

Nationality.	Steam.		Sailing.		Total.	
	No.	Tons.	No.	Tons.	No.	Tons.
British	40	55,656	5	333	45	55,989
German	.....	.....	9	635	9	635
United States of America	17	32,963	4	645	21	33,608
Norwegian	.....	.....	4	2,576	4	2,576
Danish	.....	.....	2	1,214	2	1,214
Total	57	88,619	24	5,403	81	94,022

OUTWARDS.

British	40	55,656	4	322	44	55,978
German	.....	.....	9	635	9	635
United States of America	17	32,963	3	497	20	33,460
Norwegian	.....	.....	4	2,576	4	2,576
Danish	.....	.....	2	1,214	2	1,214
Total	57	88,619	22	5,244	79	93,863

PROPOSED BRIDGE AT SYDNEY.

Inclosed please find call for tenders for bridge spanning Port Jackson, Sydney Harbor, and connecting North Sydney with the city of Sydney proper.

There has been for several years considerable agitation regarding the construction of this bridge. Sydney is a city of great wealth; and within the metropolitan area, it is now claimed, there are about 425,000 people, fully 40,000 of whom reside in the North Sydney suburb.

Although a more convenient method of crossing the harbor is desired, and the northern suburb is growing very rapidly, the travel by vehicle is comparatively lighter in this than in an American city of the same size, and a rational doubt may be entertained as to an immediate construction of the work.

In this country all such works are carried on by the government, and as there are political parties—"ins and outs" to promise and oppose—rather long agitation may be looked for before any administration will assume the responsibility of taxing the people inhabiting this 310,000 square miles of territory for the benefit of so small a proportion of the population.

However, the people are enterprising, and, unless there should be a serious and protracted check to the prosperity of the colony or

the growth of the city, an earnest effort to accomplish this work may be looked for in no distant future.

As an American firm put in the largest and most expensive bridge in Australia or even in the Southern Hemisphere, I have had copies of the call for tenders sent to some of the large firms of the United States and send the inclosed for publication.

GEO. W. BELL,
Consul.

SYDNEY, *March 2, 1900.*

PROPOSALS TO CONSTRUCT BRIDGE CONNECTING SYDNEY WITH NORTH SYDNEY.

DEPARTMENT OF PUBLIC WORKS,
Sydney, January 4, 1900.

Competitive designs and tenders are hereby invited by the government of New South Wales for a bridge and approaches connecting Sydney with North Sydney, via Dawes' and McMahon's points, upon the terms and conditions set forth hereunder.

All designs and particulars must be delivered to the under secretary for public works, Sydney, not later than noon on the 1st of August, 1900.

Conditions upon which designs and tenders are invited for the construction and erection of a bridge across Sydney Harbor, between Dawes' Point and McMahon's Point.

(1) Each design is to be accompanied by—

(*a*) General and detail drawings and strain sheets.

(*b*) A complete specification describing the kind of materials proposed to be used, the strains to which these will be subjected, and the class of workmanship to be adopted.

(*c*) A detailed estimate of the cost of the work, including construction and erection complete.

(*d*) A statement of the time required for completion.

(2) The designs, etc., will be placed before a board of advisers, consisting of the under secretary for public works and commissioner for roads, the engineer in chief for public works, the engineer in chief for railway construction, the government architect, the engineer in chief for sewerage construction. The recommendations of the board will be laid, as soon as practicable, before the minister for public works, with whom will rest the final awards as hereinafter set forth.

(3) Every person submitting a design and tender must satisfy the secretary for public works of his ability to carry out and complete the work within the time mentioned, in the event of the government, within six months after the receipt of the said design and tender, deciding to proceed with the work.

(4) In the event of a design and tender being accepted, the tenderer will be called upon to provide preliminary security to the amount of £10,000 ($48,665), and enter into a bond under which penalties for delay in completion will be inflicted, and the contractor required to maintain the structure after completion for a period of twelve months.

(5) The government will not be bound to accept the lowest or any tender; but, in order partly to recoup the tenderers for the trouble and expense in preparing the designs and particulars, two premiums—one of £1,000 and a second of £500—are offered for the two designs which, in the opinion of the minister, are the best and most suitable, due consideration being given to cost and suitability of design as regards local surroundings, etc., and these premiums will be paid, provided always that the conditions laid down have been in all respects conformed with.

(6) The whole of the drawings relating to the selected designs receiving premiums are to become the absolute property of the government.

(7) The secretary for public works reserves the right to publicly exhibit the designs and undertakes to return, free of cost, all designs not awarded premiums; but, while using every care for the safe custody of the designs, he will not be responsible for any accident, damage, or loss whatever that may happen to them.

(8) The following particulars are attached hereto for the information of tenderers, viz: A lithographic plan of a portion of the city of Sidney, North Sidney, and the harbor, showing the approximate position of the proposed bridge, the Milson's Point Railway, and the levels of the streets near the bridge approaches, and also a section across the harbor, with particulars of borings taken in the harbor bed.* For any further particulars required, application should be made to the under secretary for public works.

(9) The design of the bridge is to provide for two footways each 10 feet wide, two roadways each 20 feet wide, or one roadway 40 feet wide; also, for a width of 24 feet in the clear for a double line of railway. It is considered that the bridge should be a single-tier bridge, as the extra height to be surmounted by the railway or road, as the case may be, might be an objection; but designs showing either the footways or the roadway, or both, overhead may be submitted, and will receive consideration.

(10) The bridge must have a clear headway of 180 feet above high-water spring tides, Sydney Harbor, for at least the middle 600 feet of its length, and is to be of one span. On each side of the central portion, the best possible headway is to be provided.

Provision to be made for suitable connections with the Milson's Point Railway and the existing Sydney and North Sydney streets.

The southern pier of the main span must be on the land at Dawes' Point or in such a position as not to encroach on the fairway, and the corresponding northern pier of the bridge must be north of a line joining the extremities of Blue's Point and Milson's Point.

(11) The steepest gradient allowable for the railway will be 1 in 35 and for the road 1 in 25.

(12) The bridge is to be designed to carry a live load of 130 pounds per superficial foot of roadway and footpath, and every part of the roadway is to be capable of carrying a moving load of 30 tons on two pairs of wheels and for a train on each line of railway consisting of three of the heaviest class of engine and tender in steam, followed by loaded trucks; the engines and tenders to be taken as weighing 110 tons, with a length of 55 feet and an axle load on drivers of 18 tons, the distributed load due to the loaded trucks to be taken as 1½ tons per lineal foot.

(13) The erection of the bridge and approaches must be provided for in such a way as not to impede or obstruct the navigation of the harbor or the traffic on the streets on each side.

(14) Designs are to be inclosed in a packet or packets, indorsed clearly on the outside "Design and tender for bridge over Sydney Harbor."

(15) Each design is to be distinguished by a motto, and to be accompanied by a sealed letter inclosing the name and address of the author, and indorsed with the motto distinguishing his design.

E. W. O'SULLIVAN,
Secretary for Public Works.

R. R. P. HICKSON, M. Inst. C. E.,
Under Secretary for Public Works
and Commissioner for Roads.

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* Filed for reference in Bureau of Foreign Commerce, where they may be consulted by interested parties.

NOTES.

Advertising American Exhibits at Paris.—The following has been received from Consul-General DuBois, of St. Gall:

If American firms having exhibits at Paris would send to the consular officers a few neatly printed cards, mentioning the character of their exhibits and extending a cordial invitation to the bearer to examine them while visiting the exposition, I am quite sure that all consular officers of the United States would see that these cards are placed in the hands of merchants residing in their districts who are likely to be interested in the exhibits to which they relate, and who will desire to examine them should they visit the exposition. One large shoe dealer said to me recently:

> I am going to Paris to examine the American shoe exhibit, to see if I can make arrangements with some good firm to ship shoes to Switzerland. Do you know what firms are to exhibit?

This same spirit of inquiry can be found among the Swiss dealers in hardware, bicycles, automobiles, food stuff (such as ham, bacon, dried fruit, potted meats, canned fruit), agricultural machinery, photographic supplies, office furniture, and many other articles that can be imported into this country with success.

Egg Exports from Russia.—Consul-General Holloway sends from St. Petersburg, April 18, 1900, statement of the exportation of eggs from Russia during the period of 1872–1898, as follows:

Year.	Number.	Year.	Number.
1872	27,000,000	1886	331,000,000
1873	30,000,000	1887	505,000,000
1874	39,000,000	1888	684,000,000
1875	36,000,000	1889	609,000,000
1876	55,000,000	1890	755,000,000
1877	109,000,000	1891	833,000,000
1878	142,000,000	1892	739,000,000
1879	141,000,000	1893	785,000,000
1880	77,000,000	1894	955,000,000
1881	67,000,000	1895	1,411,000,000
1882	96,000,000	1896	1,475,000,000
1883	128,000,000	1897	1,737,000,000
1884	240,000,000	1898	1,831,000,000
1885	235,000,000		

The value in 1898 was 31,134,000 rubles ($16,002,876).

Counts of Yarn by the Metric System.—Consul McFarland, of Nottingham, May 3, 1900, says:

The current number of the Hosiery Trade Journal (Leicester, May 1) gives the following explanation of yarn counts by the metric system:

In the metric system of enumeration, the counts of yarn denote the number of meters that go to a gram, or kilometers to a kilogram, the length of the thread being fixed as 1,000 meters, with decimal subdivisions. In numbering cottons, however, the half kilogram is used—that is to say, the counts of cotton yarn indicate the number of times 1,000 meters are required to make up a standard weight of 500 grams (half a kilogram). For example, No. 20 cotton yarn is one, 20,000 meters of which weigh 500 grams (half a kilogram). The following table will give the weight in grams of 1,000 meters (1 kilogram) of cotton and worsted yarn for different counts:

Number.	Cotton.	Worsted.
	Grams.	*Grams.*
1	500	1,000
5	100	200
10	50	100
20	25	50
40	12½	25
60	8⅓	16⅔
80	6¼	12½

American Horses in Switzerland.—Consul Gifford writes from Basel, April 10, 1900:

For several years past, American driving and saddle horses have been imported in large numbers into Switzerland. This spring, the business seems to be assuming unusual activity, and one shipment of seventy-two American animals has already arrived in Basel. These are offered to the public exclusively as draft and cart horses. The Swiss importer obtains for them about 1,400 francs ($270) each, and up to this time they appear to have given satisfaction. They are bought up all the more eagerly, since it is thought that further opportunities for such purchases may not be frequent in the near future. It is reported here that the demand for American horses for South Africa has occasioned a scarcity which may render exportation to Europe impracticable for the present.

German Emigration in 1899.—Consul Hill writes from Amsterdam, May 5, 1900:

The statistics of German emigration for 1899 show that 23,740 persons left the country to cross the ocean. There has been a great falling off in emigration since 1894, when there were 120,089 German emigrants. The decrease is due to the commercial and indus-

trial prosperity of Germany and to the care taken by the State for the welfare of the working classes. Out of the 23,740 German emigrants, 19,016 went to the United States in 1899 and 1,089 sailed from Bremen for Brazil, against 629 in 1898. The increase is due to the concession obtained by the Hanseatic Colonization Society.

Food Prices in Germany.—Vice-Consul Murphy, of Magdeburg, on March 20, 1900, sends an extract from the Magdeburg Zeitung, giving the average prices of the most important articles of food in Prussia, as follows:

Articles.	Price.	Articles.	Price.
Wheat.....per metric ton *...	$35.00	Beef, rump.....per kilogram †...	$0.32
Rye.....do.....	33.00	Ribs of beef.....do.....	.28
Barley.....do.....	33.00	Pork.....do.....	.31
Oats.....do.....	31.00	Veal.....do.....	.31
Yellow cooking pease.....do.....	63.00	Mutton.....do.....	.30
White beans.....do.....	60.00	Smoked bacon (German).....do.....	.36
Lentils.....do.....	95.00	Butter.....do.....	.53
Potatoes.....do.....	12.00	Lard (German).....do.....	.37
Straw.....do.....	8.50	Wheat flour.....do.....	.07
Hay.....do.....	13.00	Rye flour.....do.....	.06
Cattle (wholesale).....do.....	255.00	Eggs.....per schork ‡...	1.08

* 2,204.6 pounds. † 2.2046 pounds. ‡ 5 dozen.

Phonographs in Spain.—Consul-General Bartleman writes from Malaga, April 3, 1900, in regard to the present Spanish tariff on phonographs. Mr. Bartleman has been instrumental in introducing into that city several of the Edison phonographs of all sizes; but with the existing tariff, the importation is impossible. Formerly, phonographs and accessories paid 30 pesetas* maximum and 25 pesetas minimum duty per 100 kilograms, net weight; now, they pay 8 pesetas and 5 pesetas per kilogram, net weight, according to the country of origin. A very large business in phonographs could be done, were the present tariff reduced.

Export of Gas Machines to Greece.—Vice-Consul Monaghan writes from Chemnitz, April 25, 1900:

Greece offers at this time a very good market for the export of gas motors of all kinds. The works of Athens and Piræus deliver gas to their customers for industrial purposes at very low rates. The Grecian mining industries have also increased in activity of late,

* The nominal value of the peseta, according to the estimate of the United States Director of the Mint, is 19.3 cents. The market value fluctuates.

causing a great demand for mining machines and apparatus. It will be of advantage to makers and exporters of such machines to investigate conditions in the Grecian market—*i. e.*, time of payment, credits, packing, freights, tariff, etc. This would also be a good field for American gas stoves. Catalogues printed in French would, if sent, be very advantageous. The German papers are calling the attention of manufacturers to the above line of machines.

New Dutch Steamship.—Consul Listoe writes from Rotterdam, May 4, 1900:

The Holland-American Steamship Company, of this city, has increased its fleet of steamers in the direct service between Rotterdam and New York by a twin-screw steamer—the *Potsdam*. The new steamer is of 12,500 tons burden, is 550 feet long, 62 feet wide, and 45 feet from upper keel to top deck. The ship is lighted by electricity throughout, and the cabins, as well as the compartments for steerage passengers, are fitted out with all modern improvements. The *Potsdam* is calculated to accommodate 200 first-cabin, 150 second-cabin, and 1,000 steerage passengers. It leaves here on its first voyage to New York May 17.

British View of the United States Policy in China.—Consular Agent Harris sends from Eibenstock, March 30, 1900, extract from the London Daily Mail in regard to the policy of the United States in China, as follows:

It is of importance for China, but it is of infinitely greater moment as it concerns America. It is the chief of the many signs that the Government of the United States has fully aroused itself to the duties as well as the privileges of international politics. America has once and forever renounced the policy of the hermit. Nothing that it has hitherto done in international affairs can in the least compare with the result of its present action. By a brief period of correspondence and of representations, it has practically secured the permanent openness of China's trade to the whole world. Henceforth, it is to be a matter of fair competition and no favor in the struggle for trade in the great Empire of the East.

Tools in Korea.—Consul-General Allen writes from Seoul, February 17, 1900:*

Wood-working and other small tools of foreign manufacture are not in demand in Korea. Some of the mission schools are attempting the instruction of the natives along industrial lines, and this effort may result in the adoption of American tools. Individual

* This report is in reply to inquiries by a New York firm, which has received a copy.

missionaries and mechanics employed here in foreign work have trained Korean carpenters in the use of American tools; but as a rule they prefer their old-style planes, which they draw towards them in planing, and like best to use their own saws, which necessitate the employment of two men sitting opposite each other on the ground and operating the saw on the stick or timber, which is held in place by the feet of the operators. In spite of these apparently clumsy methods, the Korean carpenters do very fair work. Possible importers of such tools are as follows: The American Methodist Mission, Seoul; Rev. H. G. Appenzeller and Rev. D. A. Bunker; the Oriental Consolidated Mining Company, Chemulpo; Messrs. Townsend & Co., importers, Chemulpo; and the Seoul Electric Company, Seoul.

Machines and Transmitting Belts in Japan.—Under date of April 25, 1900, Vice and Acting Consul Monaghan, of Chemnitz, says:

German papers note that the increasing use of machines of all kinds in Japanese industries has caused a large import of leather and rubber belts, which will without doubt advance in succeeding years, as Japan has not, up to this time, taken up the manufacture of these articles.

The thriving Japanese industries also offer a good market for the sale of boilers, especially tubular boilers. A great demand exists at present for drilling, planing, screw, and thread-cutting machines and turning lathes.

Petroleum in Algeria.—Consul Skinner, of Marseilles, sends the following, dated April 27, 1900:

M. Henry Neuberger, intrusted by the governor-general with a geological exploration in Algeria, has just furnished information as to the first part of his expedition into the department of Oran. According to his report, the West Algerian petroleum-bearing basin offers fourteen districts rich in oil, extending northwest to southeast for a length, in the southern district, apparently exceeding 124 miles. If the report of the discovery is reliable, the nature of these soils is in all respects similar to that of the rich beds of Baku and Galicia, which promises a prosperous future for petroleum exploitation in Algeria. On the other coast, petroliferous levels reappear in the department of Constantine. Applications for concessions to work these beds have already been made by ten or more financial companies.

Inspection of United States Grain in Canada.—Commercial Agent Johnson sends from Stanbridge, May 7, 1900, copy of an act recently passed by the Canadian Parliament respecting the inspection of United States grain passing through Canada in transit to Great Britain or other foreign countries, as follows:

Inspectors of grain shall, when required, inspect grain of the United States passing through Canada in transit to Great Britain or to a foreign country, and shall grant certificates therefor based on standard samples of such grain furnished to said inspectors by the department of inland revenue, and the said standards shall be established by the board of examiners of board of trade for the district wherein such inspection takes place, and shall be known as the standards for United States grain of the said district.

(2) Every certificate relating to such grain shall state that it is of United States production, and that the grade mentioned is that of the board of examiners of the board of trade of the district wherein the inspection takes place.

New Electric Plant in Quebec.—Commercial Agent Johnson writes from Stanbridge, May 17, 1900:

The Chambly Water and Power Company, located 25 miles northwest of Stanbridge, is about to add very largely to its present plant at Chambly. It intends to develop additional power at St. Therese Rapids, some 3 miles farther up the river. At the present time, the Chambly works have 7,500 horsepower, but they will be made capable of developing 20,000 horsepower. The works at St. Therese will give an additional 10,000 horsepower. The extension of the old works will, it is expected, be completed this summer, while the new works will take some eighteen months to finish.

Land Grants in Ontario.—Commercial Agent Shotts writes from Sault Ste. Marie, May 10, 1900:

The government of the Province of Ontario has granted a bonus to the Algoma Central Railway of 7,400 acres of land to the mile of road. This road had previously received a money bonus from the Dominion Government of $3,200 per mile. It is to run from this city to Dalton, on the Canadian Pacific Railway, with a branch to Michipicoten, in all about 200 miles, through a mineral and timber district. The land will probably become very valuable. One of the considerations of the bonus provides that the company must bring one thousand settlers into the district each year for ten years. The railway is owned by the Lake Superior Power Company, composed entirely of citizens of the United States. This company now has one of the largest mechanical pulp mills on the continent located

here, and is building a sulphide pulp mill, smelting and reduction works, alkali and chemical works, and large ore docks at Michipicoten Harbor. It is also getting a line of vessels to carry the ore and the products of its mills.

Land Grant in Brazil.—Consul Kenneday, of Para, April 15, 1900, writes:

A Brazilian citizen—Mr. Manoel Floriano Correa de Britto—has obtained a most valuable concession of lands near Manaos. I forward herewith a copy, in Portuguese,* of the terms of agreement. The property consists of several thousand acres of rubber and cocoa land, including immense belts situated on the banks of the Rio Negro, Rio Japura, and Rio Branco.

Opening of Railway in Salvador.—Consul Jenkins, of San Salvador, on March 20, 1900, reports:

On the 19th instant train service between San Salvador, Santa Ana, and Acajutla† was opened, saving four hours, as compared with the old, tedious route. The railway company will build custom-houses for the Government, giving commerce greater facilities than now exist, not only in the way of quicker passenger transit, but also of freight, which was formerly carried part of the distance in springless carts, much to the detriment of certain classes. Shippers will be benefited to the extent of about 50 per cent reduction on freight rates between San Salvador and the coast. President Regalado formally declared the line open for public service, and the first train, adorned with the national colors of Salvador, England, and the United States, started for its destination. The consul of the United States occupied a seat in the carriage of the President by special invitation, and was the only foreign representative thus favored at this ceremony.

Proposed Railway in Honduras: Trade Notes.—Consul Johnston, of Utilla, under date of April 10, 1900, says:

There is a plan to build a railroad from Truxillo up the Roman River to Jutigalpa in Olaxcho State. This will open up a large valley, said to be unsurpassed for the cultivation of bananas; it will also touch large mahogany forests and the mineral lands of the interior of Honduras.

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* Filed for reference in the Bureau of Foreign Commerce.

† See ADVANCE SHEETS No. 703 (April 13, 1900).

Exports are increasing as a result of the recovery of Bay Island from the storm in 1898. The first cargo of fruit shipped from that island since the storm was sent last month. The island of Ruatan is still short of fruit.

The imports are not so large as heretofore, because the people did not have the means to purchase; but the imports are nearly all—probably 90 per cent—from the United States.

Condensed Milk in Chile.—Consul Warner writes from Leipzig, April 7, 1900:

The following is the substance of an article which recently appeared in the Leipziger Tageblatt:

The amount of condensed milk imported into Chile averages about 620,000 pounds annually, most of which is furnished by Great Britain and Germany. The milk is packed in cans, 4 dozen cans to a box, each can weighing a fraction over a pound. The condensed milk imported from England is designated and known to the trade as "English," while that from Germany is known as "Swiss."

Here is another product which England and Germany are exporting to Chile, the United States being in no way a competitor. Why is it that these two countries can sell their products in the markets of Chile, which are so much nearer our own country in point of distance? The question is easily answered: Their commercial marine gives them this advantage over us. When the day comes—and it is to be hoped that it is not far off—that our country will have a merchant marine, Chile will buy not only our condensed milk, but our iron, our machinery, our woolen and cotton goods, which she purchases to-day largely from England and Germany.

Colombian Match Monopoly.—The Department has received from Consul Shaw, of Barranquilla, and Vice-Consul Cobbs, of Colon, under date of April 20 and May 1, 1900, respectively, copies of a decree providing that the monopoly of the importation of matches and of materials for the manufacture of same should end on the 10th of April, 1900, and setting forth the duty to be collected on said importation. The articles read:

ARTICLE 1. After the 10th day of April next the importation of matches, as well as the raw materials for the manufacture of same, will be permitted in the Republic.

ART. 2. By virtue of the foregoing article, a duty on such importations will be collected as follows: Wax matches, $1.50 (65.4 cents gold)* per kilogram (2.2046 pounds); wooden matches, 50 centavos (21.8 cents) per kilogram. Materials for the manufacture of matches will pay the ordinary duty, plus 25 per cent.

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* Taking the United States Treasury valuation of the Colombian peso, April 11, 1900—43.6 cents.

Freight Rates from Puerto Colombia to Barranquilla.—Consul Shaw sends from Barranquilla, April 28, 1900, copy of a notice published by the Barranquilla Railway and Pier Company, Limited, according to which there will be charged from the 1st of May, 5 cents gold for each 125 kilograms (275 pounds) of import or export cargo, in addition to the regular freight charges collected in Colombian currency. The same charge will apply to shipments of cattle.

Light-House Dues at Puerto Cabello.—Consul Ellsworth, of Puerto Cabello, April 16, 1900, reports:

The Government has placed the light-house in this port in charge of Señor Eudoro Bello, who informs agents and owners of ships that they must pay the sum of 15 centimos of a bolivar (2.9 cents) for each ton of freight they bring into or take from this port. The light of the present light-house is furnished by an ordinary ship's lantern. I am informed that it is intended for this contractor to furnish better illumination.

Uruguayan Trade in 1899.—Minister Finch, of Montevideo, under date of April 9, 1900, sends a statement of the trade of Uruguay in 1899, from which it appears that the total imports were $25,551,788, against $24,784,360 in 1898; and the exports, $62,125,952, against $55,061,276 in the preceding year. The chief increases in the imports were in raw materials, machinery, and "soft goods;" in the exports, gains were noted in slaughterhouse products.

Bids for Printing in Paraguay: Bubonic Plague.—Consul Ruffin writes from Asuncion, April 6, 1900, that bids will soon be requested for printing 3,000,000 or 4,000,000 postage stamps of different colors. Interested parties should address the postmaster-general, Señor Angel Peña.

Paraguay has been officially declared free of the bubonic plague.

Life-Insurance Companies in Russia.—Under date of April 14, 1900, Consul Smith writes from Moscow:

The capital invested by insurance companies in Russia amounts to 418,000,000 rubles ($209,000,000). The number of persons insured in 1899 was 21,114, the insurance amounting to 71,000,000

rubles ($35,500,000). Of the above amount, 41,840,710 rubles ($20,920,355) was received by American insurance companies; the balance by Russian.

The Russian people, adds Mr. Smith, are only beginning to realize the advantages of life insurance.

Newspapers in Russia.—Consul Smith sends from Moscow, April 14, 1900, the following data as to publications in Russia:

Periodical journals and newspapers issued in the Russian language	631
In the Polish language	65
In the German language	42
In the Estomian language	11
In the French language	8
In the Latin language	9
In the Armenian language	6
In the Hebrew language	2
In the Caucasian language	5
Total	779

Electric Railways in Gothenburg.—Consul Bergh writes from Gothenburg, April 12, 1900:

Referring to my reports of September 26, 1898, and April 6, 1899,* regarding the electric street railways in Gothenburg, I have to inform the Department that the city council yesterday decided that the city itself shall build and run the new electric street railways. In all probability, the proposed lines will be extended considerably, and more rolling stock and other material will be needed than at first estimated. American firms intending to compete with Swedish and German manufacturers should address communications to Figge Blidberg, esq., engineer, manager of the city tramways, Gothenburg.

A New Greek Railway.—Consul Skinner sends the following from Marseilles, April 7, 1900:

A French financial review says M. Theotokis, Prime Minister of Greece, has signed a convention with the representative of the syndicate of construction for the Oriental Railway, for the building of a railroad to connect Piræus and Thessaly, and to continue to the Turkish frontier. The railway will necessitate a loan of 43,750,000 francs ($8,299,000), which will be contracted by the Government at 4 per cent.

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*Consular Reports Nos. 219 and 226; Advance Sheets Nos. 254 and 414.

Number of Physicians and Dentists in Germany.—Consul Pitcairn writes from Hamburg, March 26, 1900, that the number of practicing physicians in the German Empire has increased during the last thirteen years from 15,824 to 21,725, or 56.25 per cent. During the same period, the population has only increased 14 per cent. In Prussia, of 1,620 military and marine physicians, only 31 out of every 100 now become general practitioners. Formerly, 57 out of every 100 left the service and entered general practice, demonstrating that the ranks of the general practitioners of medicine are becoming more and more crowded. The number of midwives is not increasing in comparison with the population.

There are 12,099 practicing dentists in the German Empire. American dentists, or German dentists who have received their education in the United States, command the best fees and are held in the highest repute.

Match Factory Near Mannheim.—Consul Harris, of Mannheim, under date of March 20, 1900, reports the erection of a large manufacturing plant by the Diamond Match Company at Rheinau, a suburb of Mannheim. The buildings, which are wholly of brick, stone, glass, and metal (no wood being used for floors, sash, or other parts), are nearly completed. The latest improved machinery will be used. The concern will have a capacity of about 60,000,000 matches per day. About 7,500 feet of lumber will be required daily to run the plant to its full capacity. It is expected that 200 employees will be required. The plant is now in charge of Mr. T. F. Cleveland, of Akron, Ohio. The company is erecting a plant in Switzerland and has one in operation at Liverpool.

Telephone Tariff in Wurttemberg.—The Department has received from Consul-General Guenther, of Frankfort (under date of March 21, 1900), and Consul Hughes, of Coburg (under date of March 22), reports to the effect that the annual charge for telephones in Wurttemberg has been reduced to 80 marks ($19.04). The cost for a five minutes' talk over the local circuit is 5 pfennigs (1.19 cents); for a distance not exceeding 15 kilometers (9⅜ miles), 10 pfennigs (2.38 cents); up to 50 kilometers (31¼ miles), 20 pfennigs (4.76 cents); for longer distances, 50 pfennigs (11.9 cents).

Arsenic in German Fabrics.—According to a report from Consul Hughes, of Coburg, dated April 5, 1900, a contention has arisen between German exporters and the Swedish Government, the latter

asserting that there are traces of arsenic in textile materials exported from Germany, such as carpets, wall papers, furniture covers, toys, etc. The German manufacturers claim that this is not so. In one way, says Mr. Hughes, this will be a strictly chemical fight, as the Swedish officials will say that their examinations were properly made, and the Germans will insist that if arsenic was found it was due to the use by the Swedish chemists of impure chemicals in making the tests.

Opening for Turbine Wheels in Germany.—Under date of April 27, 1900, Consul Hughes writes from Coburg:

In these times, when coal is hard to obtain, our American turbine-wheel houses ought to give special attention to supplying southern Germany with improved machinery for utilizing the water power which is now running to waste, especially in Thuringia. They should send salesmen who can speak German and know how to operate the machines. The only water wheel known here is the old-fashioned one.

Opening for Coal in Trieste.—The Bureau of Foreign Commerce has received a letter from a firm in Trieste (Fr. Buzzi d'J), which says:

> Would you be kind enough to favor us with the addresses of the largest and most responsible coal collieries in Virginia, Pennsylvania, Alabama, and Ohio. We are in possession of several names of coal-export firms in New York and Baltimore, but steamship companies and customers here prefer to deal with the collieries direct.

Not wishing to discriminate between coal companies, the Bureau of Foreign Commerce takes this method of bringing the matter to the attention of those interested.

Fruit Trees in Saxony.—Vice-Consul Murphy writes from Magdeburg, April 9, 1900:

According to a report published in the German Agricultural Press, the fruit trees in the province of Saxony, Prussia, were carefully counted in the years 1897–1899, and it was found that they numbered 12,793,461. Of this total, 52.7 per cent were plum trees, 19.6 per cent apple trees, 16.8 per cent sweet cherry trees, and 10.9 per cent pear trees. Estimating the value of each tree at 8 marks ($1.90), the fruit trees of the province of Saxony represent a capital of 100,000,000 marks ($24,000,000).

Pork Inspection in Sweden.—Consul-General Winslow, of Stockholm, under date of April 12, 1900, informs the Department that during the month of March the health department of Stockholm inspected 8,935 head of slaughtered swine, 65 half head, and 592 pieces of salted sides, 366 of the last being from the United States. Trichinæ were found in 8 head of the slaughtered swine. The pork of American origin was found healthy.

Soap Trust in Germany.—Consul-General Guenther, of Frankfort, under date of April 5, 1900, reports that 85 per cent of the German soap manufacturers have joined the trust, and the rest, it is said, are to be coerced into it by underselling or by cutting off the supply of raw materials. A union of consumers is recommended as a counter remedy.

German Sugar Reports.—Vice-Consul Murphy sends from Magdeburg copies of Cohr & Ammé's weekly sugar reports, showing arrivals, shipments, and stock in Hamburg. These reports are filed in the Bureau of Foreign Commerce, where they may be consulted by interested parties.

Consular Reports Transmitted to Other Departments.—The following reports from consular officers (originals or copies) have been transmitted since the date of the last report to other Departments for publication or for other action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
M. H. Twitchell, Kingston...	May 31, 1900	Agricultural conditions...	Department of Agriculture.
E. Schneegans, Saigon.....	Mar. 1, 1900	Rice market.....	Do.
Do	Mar. 15, 1900	.....do	Do.
Do	Apr. 1, 1900	.....do	Do.
L. L. Stang, Saigon.....	Apr. 12, 1900	.....do	Do.

FOREIGN REPORTS AND PUBLICATIONS.

Importation of Cotton Cloths into Persia.—The following extracts are taken from the Revue du Commerce Extérieur, Paris, February 3, 1900:

According to the Persian customs statistics, the commerce in cotton cloths in Persia in the fiscal year 1899 reached a value of $7,720,000. When it is considered that the total importation into Persia was estimated at $19,300,000, it will be seen that cotton cloths, calicoes, and cottons represent 40 per cent of the whole. The details of the importation through the different customs districts for the year 1898–99 were as follows:

Imports.	Value.	Imports.	Value.
Tabriz.		*Bushire.*	
Calicoes	$617,600	Cotton thread	$14,762
Cottons, manufactured	1,180,195	Tissues of cotton:	
Cloths:		White	2,965,402
Cotton	213,265	Colored and printed	288,197
Woolen	43,425	Cloths	8,019
Mohammerah (Persian Gulf).		Tissues of wool	33,177
Cotton thread	6,020	*Nirmanchach (Turkish frontier via Bagdad).*	
Tissues	342,720	Tissues of cotton, white and printed	341,610
Cloths	65,910	Cloths	40,530
Benderabbas.		*Lingah.*	
White cotton thread	246,229	Cotton thread	3,768
Tissues of cotton:		Tissues of cotton:	
White	235,219	White	33,775
Printed	75,656	Colored	106,970
Colored	72,375	Others	147,645
Others	262,287	Cotton cloths	7,031
Cotton cloths	4,825		

The cotton thread, imported through the ports of the Persian Gulf, is generally sent to Yezd and Nirman, where it is manufactured into a cloth of the country called "kirman," a poor imitation of India shawls. These tissues are comparatively dear, in spite of the cheapness of hand labor, and can not compete with those of Manchester. A cotton-spinning mill of 1,600 spindles was installed at Teheran four years ago by the Persians, with the aid of German workmen. Seventy-seven thousand two hundred dollars were invested. The profits of the society are stated to be 17 per cent on the capital employed. The promoters of this enterprise have recently solicited and obtained from the Shah a grant conferring a monopoly for establishing new spinning mills, for which they propose to call upon European capital. Cotton grows in considerable quantities on the plains of Véramine, near Teheran; but it is of an inferior quality, and the method of cultivation must be improved before it can compete with the foreign product.

Railways in Siam.—The Recueil Consulaire, vols. 104 and 105, 1899, Brussels, gives the following:

The department of railways is pushing work on the Korat line, and it is expected that it will be completed before the end of the year 1900. Regular traffic of merchandise is now carried on as far as Muoklek. Only 51 miles of the road remain to be constructed. The first 25 miles of the branch line to Lopburi and Chiengmai are being built, the rails having been laid for nearly 7 miles.

The preparatory studies for the narrow-gauge line to Ratburi and Petchaburi are finished as far as Ratburi. The Government has redeemed the concession for this road, and, it is supposed, intends to extend the line along the eastern coast to Singora. The ports on this coast being inaccessible during six months of the year, the road would have an important traffic.

The Government has conceded to the Siam Canal, Land, and Irrigation Company the construction and working of a small line along the Klong-Rangsit Canal.

The concession granted to M. Ch. Dunlop for the construction of a railway in the provinces of Kedah and Singora has lapsed, the work not having been commenced within the stipulated time. The line was to have been 76 miles long, with a branch line of 60 miles to Kulem. A grant has been made for an electric tramway from Bangkok to San Sen, a distance of 2 miles.

The tramway of Bangkok (a Danish enterprise) continues to prosper.

Rights of Foreigners in Japan.—A report in Nachrichten für Handel und Industrie, Berlin, April 10, 1900, is summarized as follows:

The latest Japanese treaty gives to foreigners the right to engage in trade or exercise their professions anywhere in Japan.

It was hoped that this concession would not only attract foreigners into the country, but that foreign capital would also be led to take an extensive share in Japanese enterprises. So far, this has happened in only one instance; an American tobacco trust has formed with a Japanese firm in Kyoto a joint-stock company for the purpose of importing American raw tobacco in greater quantities and manufacturing it. Other import firms do not appear to find it necessary to establish branch offices in the interior, nor to take advantage of their right to carry on business under their own names. In some places, where for special reasons such representation might be desirable, as in the coal ports of Moji, firms have continued to carry on business in the old way. Neither has the opening of twenty-two new ports to foreign commerce had any appreciable results.

One reason given for this state of things is that Japanese legislation does not give to foreigners the right to acquire real estate or mining property in Japan. The existing companies which have acquired a legal status by registering in the Japanese trade register are entitled to acquire real estate, whether their members are Japanese and foreigners or foreigners alone. Whether this will be of any great advantage appears doubtful. In case of dissolution of partnership, individual members can not hold real estate; thus the property must undergo forced sale, with loss to the company. Some time ago, the prevailing lack of capital aroused in Japanese circles a sentiment in favor of allowing foreigners to work the mines. There is now a current in favor of allowing them to hold real estate. Whether these concessions may be expected in the course of the next few years can not with

safety be prophesied. The prevailing opinion that Japanese industries, in consequence of the cheaper conditions of life and labor, possess great advantages over European competition has lost its authority of late years, since wages, as well as the price of the necessaries of life, have increased enormously. In the last ten years, wages have increased as follows:

	Per cent.
Iron foundries	86
Breweries	71
Mechanical employment	76
Electrical work	76
Harbor work	80
Packing	140

At the same time, the price of the most important necessities of life are shown by the Japan Daily Herald to have increased, as compared with January, 1887, as follows:

Articles.	Per cent.	Articles.	Per cent.
Coal	68	Oil	140
Charcoal	81	Flour	80
Other inflammables	92	Tea	30
Petroleum	92	Beans	107
Dried fish	175	Poultry	67
Sugar	55	Eggs	130
Salt	134	Japanese tobacco	37
Barley	103	Lumber	172
Rye	179	Skins	97
Wheat	75	Glass	93
Fertilizers	72		

Rice, which forms such an important article of food for the laboring people of Japan, has increased almost threefold in price in the last ten years. The dexterity and intelligence of the Japanese workman find universal recognition; but his capacity of production amounts at most to two-thirds of that of European workmen. Besides, he possesses peculiarities of character; it often happens that a large number of workmen leave work suddenly without warning, merely to gratify their desire for change. It is evident that the education of a skilled laboring class is rendered difficult by this, and that trade disturbances must follow.

Trade of Curaçao in 1899.—The following is taken from a British Foreign Office report (No. 2392, annual series):

There has been a general depression of trade in the island of Curaçao in 1899, on account of the unsettled state of politics in the neighboring states and the low prices obtained for products on the foreign markets, especially coffee and wood. The harbor of Curaçao is easily approached and entered, and offers in all seasons a secure anchorage for vessels of no matter what draft or tonnage; it is, from its position, the port of transit most convenient for an entrepôt, through which trade with Venezuela, Colombia, Santo Domingo, and Haiti could be carried on, if the unfavorable conditions existing in regard to political troubles, paper currency, and

the 30 per cent differential duty were removed. The following table gives the statement of all merchandise in transit at Curaçao during the years 1896–1898:

Articles.	Quantity.		
	1896.	1897.	1898.
Cacao ..... bags...	1,051	1,458	2,823
Coffee ..... do.....	240,728	380,058	387,187
Hides ..... pieces...	18,606	27,124	28,016
Peruvian bark ..... packages...	26	391	103
Skins, goat ..... do.....	4,802	8,466	5,030
Sundries ..... do.....	1,086,802	1,023,937	1,194,755

Statistics of the import trade for 1899 are not available, but the total value of the import trade in 1898 shows a large decrease as compared with that of 1897—715,681 florins ($288,106). The actual decline in the value of the general merchandise brought to this port in American vessels is about 500,000 florins ($201,000). The total imports during the years 1894–1898 were as follows:

Year.	Value.	
	Florins.	
1894	3,165,481	$1,272,523
1895	2,633,136	1,058,521
1896	2,962,668	1,190,993
1897	2,676,651	1,076,013
1898	1,960,970	788,310

The straw-hat industry is almost dying out, on account of the low prices recently obtained for the article. An arrangement has been arrived at between the colonial government and the representative of the Aruba Island Gold-Mining Company, Limited, for the formation of a new company in England with a large capital, to which the concession for the exploitation of the gold mines of Aruba has been granted for a period of forty years. The new company takes over all the assets, etc., of the old company, which receives as compensation a certain amount in fully paid-up shares of the new company.

The Mont Blanc Railway.—The Tramway and Railway World, London, April, 1900, says:

The construction of the Mont Blanc Railway is to be begun under the direction of M. Saturnin Faure, whose project, presented at the last council general of Upper Savoy, has been recognized as perfectly feasible and pronounced of practical utility. The motive power is to be electricity, and the rack system will be used. The train will start from the village of Les Houches, near the line now in course of construction from Fayet to Chamounix. The first tunnel will be entered a little above the hamlet of Taconnaz, at an altitude of 3,600 feet. The line will follow the mountain ridge on the left bank of the glacier of Taconnaz, which rises by the peak of the Gros Bechard to the Aiguille du Goûter. This tunnel, which will be pierced in the mountain, will be nearly 4 miles long and rise from the foot of the mountain, at Taconnaz, to the top of the Aiguille du Goûter, an altitude of 12,610 feet, passing through the very bowels of the rocky isthmus which unites the Gros Bechard

with the Aiguille. As in the Mont Cenis Tunnel and those of other mountain railways, a series of peepholes or balconies is to be constructed at different points of the route, so that travelers may enjoy the magnificent views over the snow-crowned peaks and glaciers. An important station-hotel is to be erected near the summit of the Aiguille, which will serve as a point of departure for excursions to the glacier. The tunnel will continue under the Dome du Goûter, in the direction of the Vallot Observatory, which is situated at the Bosses at an altitude of 14,200 feet. Here, a second station will be established. The train will then pass under the Bosses to the Rochers Rouges, which are only 1,140 feet below the highest point. These rocks, known as the Rochers Rouges, which are partially occupied by the Janssen Observatory, have been chosen as the site of the last station. Above this, there is only an ascent of 700 feet to be made, and this will be effected by means of a cable sledge, worked, like the train, by electricity. The last station is to be under ground, and the rock will be pierced in such a way as to form galleries in which restaurants will be erected, 13,070 feet above the rest of the world.

Industries of Seville.—The following extracts are from the Recueil Consulaire, Brussels, vol. 104, 1899:

The few manufactories of this province are managed mostly by foreigners. The tramways of Seville and the waterworks are exploited by an English company. The gas manufactory is in charge of a Catalonian enterprise. Quite recently, an electrical plant has been installed by a German firm, which has made arrangements with the railway company to substitute electric motive power for animal traction. Thirty years ago, a Belgian firm introduced the extraction of oil from the residuum of olives. This manufactory is still flourishing and has served as a model to numerous similar establishments. A large factory for the extraction of beet sugar is being constructed in the province of Cadiz, by capital from Seville.

The exports of Seville have been in the past directed to Spanish colonies, especially Cuba, and they have not yet materially diminished. The large Spanish olive, for example, is almost entirely exported to America, chiefly to the United States. The olive oil of Andalusia, which is of an excellent quality, in spite of the old-fashioned and defective methods employed in its manufacture, will continue for a long time to be sent to Cuba.

Foreign Trade of Réunion.—In a recent edition of the Feuille de Renseignements de l'Office Colonial, Paris, the following appears:

The imports into Réunion during the second quarter of 1899 were valued at $1,191,846 and the exports at $517,453. Compared with the corresponding period of 1898, the imports show an increase of $98,303 and the exports an increase of $331,577. The imports and exports are divided according to countries of origin as follows:

Country.	Imports.	Exports.
France	$833,015	$454,641
French colonies	116,312	33,436
Mauritius	.....	29,202
Other countries	242,519	174
Total	1,191,846	517,453

The French imports were principally cotton tissues ($140,254), iron manufactures ($135,933), cast-iron wares ($37,729), ordinary wine in casks ($86,896), machinery ($50,911), lard ($29,842), dried fish ($25,301). The French colonies supplied rice to the value of $108,823; other countries furnished flour ($39,631), lard ($25,321), rice ($22,952), wood ($19,405). The United States is represented in this import trade by $22,082 of lard, Great Britain by $21,655 of different wares, and America by $19,405 of wood.

The chief articles of export are:

Articles.	Quantity.	Value.
Sugar.....pounds...	6,565,021	$167,212
Vanilla.....do.....	26,786	110,467
Inferior quality vanilla.....do.....	7,304	20,552
Rum.....quarts...	547,423	29,995
Essences.....do.....	3,636	26,568

The Mexican Textile Industry.—The Nachrichten für Handel und Industrie, Berlin, February 19, 1900, says:

The Mexican textile industry has developed wonderfully in the last ten years. Statistics recently published in the Diario Oficial for the half year January to June, 1899, show that there are in Mexico one hundred and thirty-eight cotton manufactories producing a half-yearly revenue of about $476,000. German industries have not suffered from this development, since cotton goods have been chiefly imported from England; on the contrary, the Mexican textile works offer a paying market for the large German dyestuffs. As the steadily increasing production threatens to exceed the home demand, they are already trying, through a better steamship service, to create new markets in the neighboring states of Central America and even in South America. Mexico hopes, by the conclusion of the Mexican-Chinese commercial treaty, to secure a share in the Chinese market.

New Commercial Route to the Indies.—The Revue du Commerce Extérieur, Paris, April 7, 1900, has the following:

The commercial route joining Quetta to Seistan, passing by Muski, established several years ago, is a real success. The road goes through a desert, but wells are found in abundance at all the stopping places, and it is possible that a telegraph line may be established following the route. This is a most important road, as all the trade between India, Persia, and Russian central Asia passes over it. The establishment of an English consulate at Seistan has increased the commerce. Russia is also going to send a consul there, which shows that she is resolved to extend her commercial influence over all oriental Persia.

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PUBLICATIONS OF THE BUREAU OF FOREIGN COMMERCE.*

The publications of the Bureau of Foreign Commerce, Department of State, are:

I.—COMMERCIAL RELATIONS, being the annual reports of consular officers on the commerce, industries, navigation, etc., of their districts.

II.—CONSULAR REPORTS, issued monthly, and containing miscellaneous reports from diplomatic and consular officers.

III.—ADVANCE SHEETS, CONSULAR REPORTS, issued daily, except Sundays and legal holidays, for the convenience of the newspaper press, commercial and manufacturing organizations, etc.

IV.—EXPORTS DECLARED FOR THE UNITED STATES, issued quarterly, and containing the declared values of exports from the various consular districts to the United States for the preceding three months.

V.—SPECIAL CONSULAR REPORTS, containing series of reports from consular officers on particular subjects, made in pursuance to instructions from the Department.

Following are the special publications issued by the Bureau prior to 1890:

Labor in Europe, 1878, one volume; Labor in Foreign Countries, 1884, three volumes; Commerce of the World and the Share of the United States Therein, 1879; Commerce of the World and the Share of the United States Therein, 1880–81; Declared Exports for the United States, First and Second Quarters, 1883; Declared Exports for the United States, Third and Fourth Quarters, 1883; Cholera in Europe in 1884, 1885; Trade Guilds of Europe, 1885; The Licorice Plant, 1885; Forestry in Europe, 1887; Emigration and Immigration, 1885–86 (a portion of this work was published as CONSULAR REPORTS No. 76, for the month of April, 1887); Rice Pounding in Europe, 1887; Sugar of Milk, 1887; Wool Scouring in Belgium, 1887; Cattle and Dairy Farming in Foreign Countries, 1888 (issued first in one volume, afterwards in two volumes); Technical Education in Europe, 1888; Tariffs of Central America and the British West Indies, 1890.

The editions of all these publications except Tariffs in Central America, etc., are exhausted and the Department is, therefore, unable to supply copies.

In 1890, the Department decided to publish reports on special subjects in separate form, to be entitled SPECIAL CONSULAR REPORTS. There are now the following SPECIAL CONSULAR REPORTS:

Vol. 1 (1890).—Cotton Textiles in Foreign Countries, Files in Spanish America, Carpet Manufacture in Foreign Countries, Malt and Beer in Spanish America, and Fruit Culture in Foreign Countries.

Vol. 2 (1890 and 1891).—Refrigerators and Food Preservation in Foreign Countries, European Emigration, Olive Culture in the Alpes Maritimes, and Beet-Sugar Industry and Flax Cultivation in Foreign Countries.

Vol. 3 (1891).—Streets and Highways in Foreign Countries. (New edition, 1897.)

Vol. 4 (1891).—Port Regulations in Foreign Countries.

Vol. 5 (1891).—Canals and Irrigation in Foreign Countries. (New edition, 1898.)

Vol. 6 (1891 and 1892).—Coal and Coal Consumption in Spanish America, Gas in Foreign Countries, and India Rubber.

Vol. 7 (1892).—The Stave Trade in Foreign Countries and Tariffs of Foreign Countries.

Vol. 8 (1892).—Fire and Building Regulations in Foreign Countries.

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* Formerly Bureau of Statistics. Name changed to Bureau of Foreign Commerce by order of the Secretary of State, July 1, 1897.

Vol. 9 (1892 and 1893).—Australian Sheep and Wool and Vagrancy and Public Charities in Foreign Countries.

Vol. 10 (1894).—Lead and Zinc Mining in Foreign Countries and Extension of Markets for American Flour. (New edition, 1897.)

Vol. 11 (1894).—American Lumber in Foreign Markets. (New edition, 1897.)

Vol. 12 (1895).—Highways of Commerce. (New edition, 1899.)

Vol. 13 (1896 and 1897).—Money and Prices in Foreign Countries.

Vol. 14 (1898).—The Drug Trade in Foreign Countries.

Vol. 15 (1898).—Part I. Soap Trade in Foreign Countries; Screws, Nuts, and Bolts in Foreign Countries; Argols in Europe, Rabbits and Rabbit Furs in Europe, and Cultivation of Ramie in Foreign Countries. Part II. Sericulture and Silk Reeling and Cultivation of the English Walnut.

Vol. 16 (1899).—Tariffs of Foreign Countries. Part I. Europe. Part II. America. Part III. Asia, Africa, Australasia, and Polynesia.

Vol. 17 (1899).—Disposal of Sewage and Garbage in Foreign Countries; Foreign Trade in Coal Tar and By-Products.

Vol. 18 (1900).—Merchant Marine of Foreign Countries.

Of these SPECIAL CONSULAR REPORTS, Australian Sheep and Wool, Cotton Textiles in Foreign Countries; Disposal of Sewage, etc.; Files in Spanish America, Fire and Building Regulations, Gas in Foreign Countries, India Rubber, Lead and Zinc Mining, Malt and Beer in Spanish America, Port Regulations, Refrigerators and Food Preservation, Soap, etc.; Sericulture, etc.; Vagrancy, etc., are exhausted, and no copies can be supplied by the Department.

There was also published, in 1899, Proclamations and Decrees during the War with Spain, comprising neutrality circulars issued by foreign countries, proclamations by the President, orders of the War and Navy Departments, and war decrees of Spain.

Of the monthly CONSULAR REPORTS, many numbers are exhausted or so reduced that the Department is unable to accede to requests for copies. Of the publications of the Bureau available for distribution, copies are mailed to applicants without charge. In view of the scarcity of certain numbers, the Bureau will be grateful for the return of any copies of the monthly or special reports which recipients do not care to retain. Upon notification of willingness to return such copies, the Department will forward franking labels to be used in lieu of postage in the United States, Canada, the Hawaiian Islands, and Mexico.

Persons receiving CONSULAR REPORTS regularly, who change their addresses, should give the old as well as the new address in notifying the Bureau of the fact.

In order to prevent confusion with other Department bureaus, all communications relating to consular reports should be carefully addressed, "Chief, Bureau of Foreign Commerce, Department of State, Washington, U. S. A."

VALUES OF FOREIGN COINS AND CURRENCIES.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

The fact that the market exchange value of foreign coins differs in many instances from that given by the United States Treasury has been repeatedly called to the attention of the Bureau of Foreign Commerce. An explanation of the basis of the quarterly valuations was asked from the United States Director of the Mint, and under date of February 7, 1898, Mr. R. E. Preston makes the following statement:

"When a country has the single gold standard, the value of its standard coins is estimated to be that of the number of grains fine of gold in them, 480 grains being reckoned equivalent to $20.67 in United States gold, and a smaller number of grains in proportion. When a country has the double standard, but keeps its full legal-tender silver coins at par with gold, the coins of both gold and silver are calculated on the basis of the gold value.

"The value of the standard coins of countries with the single silver standard is calculated to be that of the average market value of the pure metal they contained during the three months preceding the date of the proclamation of their value in United States gold by the Secretary of the Treasury. The value of the gold coins of silver-standard countries is calculated at that of the pure gold they contain, just as if they had the single gold standard.

"These valuations are used in estimating the values of all foreign merchandise exported to the United States. The value of the Indian rupee, although calculated according to law at the value of the pure metal contained therein, has a commercial value above the value of the silver bullion; consequently the value for customs purposes is determined in each case by the consular certificates attached to the invoice of exports from that country to the United States."

The following statements, running from January 1, 1874, to July 1, 1900, have been prepared to assist in computing the values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. When it is taken into account

that the ruble of Russia, for instance, fluctuated from 77.17 cents in 1874 to 37.4 cents in April, 1897, such computations are wholly misleading. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1890, and in the quarterly valuations thereafter.

To meet typographical requirements, the quotations for the years 1876, 1877, 1879, 1881, 1882, and 1891–95 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz: (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

A.—*Countries with fixed currencies.*

The following official (United States Treasury) valuations of foreign coins do not include "rates of exchange."

Countries.	Standard.	Monetary unit.	Value in U.S. gold.	Coins.
Argentine Republic*.	Gold and silver..	Peso	$0.96,5	Gold—Argentine ($4.82,4) and ½ Argentine; silver—peso and divisions.
Austria-Hungary†	Gold	Crown	.20,3	Gold—20 crowns ($4.05,2) and 10 crowns.
Belgium	Gold and silver..	Franc	.19,3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil	Gold	Milreis	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British North America (except Newfoundland).	do	Dollar	1.00	
British Honduras	do	do	1.00	
Chile	do	Peso	.36,5	Gold—escudo ($1.25), doubloon ($3.65), and condor ($7.30); silver—peso and divisions.
Costa Rica	do	Colon	.46,5	Gold—2, 5, 10, and 20 colons; silver—5, 10, 25, and 50 centisimos.
Cuba	Gold and silver..	do	.92,6	Gold—doubloon ($5.01,7); silver—peso (60 cents).
Denmark	Gold	Crown	.26,8	Gold—10 and 20 crowns.
Egypt	do	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland	do	Mark	.19,3	Gold—10 and 20 marks ($1.93 and $3.85,9).
France	Gold and silver..	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany	Gold	Mark	.23,8	Gold—5, 10, and 20 marks.
Great Britain	do	Pound sterling	4.86,6½	Gold—sovereign (pound sterling) and half sovereign.
Greece	Gold and silver..	Drachma	.19,3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti	do	Gourde	.96,5	Silver—gourde.
Italy	do	Lira	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Japan‡	Gold	Yen	.49⅞8	Gold—1, 2, 5, 10, and 20 yen.
Liberia	do	Dollar	1.00	
Netherlands§	Gold and silver..	Florin	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Newfoundland	Gold	Dollar	1.01,4	Gold—$2 ($2.02,7).
Portugal	do	Milreis	1.08	Gold—1, 2, 5, and 10 milreis.
Russia‖	do	Ruble	.51,5	Gold—imperial ($7.718) and ½ imperial ($3.80); silver—¼, ½, and 1 ruble.
Spain	Gold and silver..	Peseta	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway	Gold	Crown	.26,8	Gold—10 and 20 crowns.
Switzerland	Gold and silver..	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey	Gold	Piaster	.04,4	Gold—25, 50, 100, 200, and 500 piasters.
Uruguay	Gold	Peso	1.03,4	Gold—peso: silver—peso and divisions.
Venezuela	Gold and silver..	Bolivar	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

* In 1874 and 1875, the gold standard prevailed.

† The gold standard was adopted October 1, 1892. (See CONSULAR REPORTS No. 147, p. 623.) Values are still, however, frequently expressed in the florin or gulden, which is worth 2 crowns or 40.6 cents.

‡ Gold standard adopted October 1, 1897. (See CONSULAR REPORTS No. 201, p. 259.)

§ See note to table of fluctuating currencies.

‖ For an account of the adoption of the gold standard, see Review of the World's Commerce, 1896–97, p. 234.

B.—*Countries with fluctuating currencies, 1874–1890.*

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1875.	1878.	1880.	1883.	1884.
Austria-Hungary*.	Silver	Florin	$0.47,6	$0.45,3	$0.45,3	$0.41,3	$0.40,1	$0.39,8
Bolivia	do	Dollar until 1890; boliviano thereafter.	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Central America	do	Peso	.96,5	.91,8	.91,8	.83,6	.....	.....
China	Silver	Haikwan tael	1.61	1.61	.....	.....	.....	.....
Colombia	do	Peso	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Ecuador	do	do	.96,5	.91,8	.91,8	.83,6	.81,2	.80,6
Egypt†	Gold	Pound (100 piasters).	.....	.....	4.97,4	4.97,4	4.90	4.90
India	Silver	Rupee	.45,8	.43,6	.43,6	.39,7	.38,6	.38,3
Japan	Gold	Yen	.99,7	.99,7	.99,7	.99,7	.....	.....
	Silver		.....	.....	.....	.....	.87,6	.86,9
Mexico	do	Dollar	1.04,7½	.99,8	.99,8	.90,9	.88,2	.87,5
Netherlands‡	Gold and Silver.	Florin	.40,5	.38,5	.38,5	.40,2	.....	.....
Peru	Silver	Sol	.92,5	.91,8	.91,8	.83,6	.81,2	.80,6
Russia	do	Ruble	.77,17	.73,4	.73,4	.66,9	.65	.64,5
Tripoli	do	Mahbub of 20 piasters.	.87,09	.82,9	.82,9	.74,8	.73,3	.72,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1885.	1886.	1887.	1888.	1889.	1890.
Austria-Hungary*.	Silver	Florin	$0.39,3	$0.37,1	$0.35,9	$0.34,5	$0.33,6	$0.42
Bolivia	do	Dollar until 1880; boliviano thereafter.	.79,5	.75,1	.72,7	.69,9	.68	.85
Central America	do	Peso	.....	.....	.....	.69,9	.68	.85
Colombia	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Ecuador	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Egypt†	Gold	Pound (100 piasters).	4.90	4.90	4.94,3	4.94,3	4.94,3	4.94,3
India	Silver	Rupee	.37,8	.35,7	.34,6	.32,2	.32,3	.40,4
Japan	Gold	Yen	.....	.....	.99,7	.99,7	.99,7	.99,7
	Silver		.85,8	.81	.78,4	.75,3	.73,4	.91,7
Mexico	do	Dollar	.86,4	.81,6	.79	.75,9	.73,9	.92,3
Peru	Silver	Sol	.79,5	.75,1	.72,7	.69,9	.68	.85
Russia	do	Ruble	.63,6	.60,1	.58,2	.55,9	.54,4	.68
Tripoli	do	Mahbub of 20 piasters.	.71,7	.67,7	.65,6	.63	.61,4	.76,7

*The silver standard prevailed in Austria-Hungary up to 1892. The law of August 2 of that year (see CONSULAR REPORTS No. 147, p. 623) established the gold standard.

†The Egyptian pound became fixed in value at $4.94,3 in 1887.

‡The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

C.—*Quarterly valuations of fluctuating currencies.*

Countries.	Monetary unit.	1897.				1898.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Bolivia	Silver boliviano.	$0.47,4	$0.46,8	$0.44,3	$0.41,2	$0.42,4	$0.40,9	$0.41,8	$0.43,6
Central America.	Silver peso	.47,4	.46,5	.44,3	.41,2	.41,4	.40,9	.41,8	.43,6
China	Amoy tael	.76,7	.75,7	.71,7	.66,4	.68,5	.66,2	.67,6	.70,6
	Canton tael	.76,5	.75,5	.71,5	.66,4	.68,3	.66	.67,4	.70,4
	Chefoo tael	.73,3	.72,4	.68,6	.63,7	.65,5	.63,3	.64,6	.67,5
	Chinkiang tael	.74,9	.73,9	.70	.65,1	.66,9	.64,6	.66	.69
	Fuchau tael	.70,9	.70	.66,3	.61,6	.63,4	.61,2	.62,5	.65,3
	Haikwan tael	.78	.77	.73,1	.67,8	.69,7	.67,3	.68,8	.71,8
	Hankau tael	.71,7	.70,8	.67,1	.62,3	.64,1	.61,9	.63,2	.66
	Ningpo tael	.73,7	.72,8	.68,9	.64	.64,3	.63	.65	.67,9
	Niuchwang tael.	.71,9	.71	.67,2	.62,5	.65,9	.62	.63,4	.66,2
	Shanghai tael	.70	.69,1	.65,5	.60,8	.62,6	.60,4	.61,7	.64,5
	Swatow tael	.70,8	.69,9	.66,2	.61,5	.63,3	.61,1	.62,4	.65,2
	Takao tael	.77,2	.76,2	.72,2	.67	.66	.66,6	.68	.71
	Tientsin tael	.74,3	.73,4	.69,5	.64,6	.66,4	.64,1	.65,5	.68,4
Colombia	Silver peso	.47,4	.46,8	.44,3	.41,2	.42,4	.40,9	.41,8	.43,6
Ecuador	do	.47,4	.46,8	.44,3	.41,2	.42,4	.40,9	.41,8	.43,6
India*	Silver rupee	.22,5	.22,2	.21,1	.19,6	.20,1	.19,1	.19,9	.20,7
Japan	Silver yen	.51,1	.50,5						
Mexico	Silver dollar	.51,5	.50,8	.48,2	.44,6	.46	.44,4	.45,4	.47,4
Persia	Silver kran	.08,7	.08,6	.08,2	.07,6	.07,8	.07,5	.07,7	.08
Peru	Silver sol	.47,4	.46,8	.44,3	.41,2	.42,4	.40,9	.41,8	.43,6
Russia	Silver ruble	.37,9	.37,4						

Countries.	Monetary unit.	1899.				1900.		
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.
Bolivia	Silver boliviano.	$0.43,9	$0.43,4	$0.44,3	$0.43,6	$0.42,7	$0.43,6	$0.43,8
Central America	Silver peso	.43,9	.43,4	.44,3	.43,6	.42,7	.43,6	.43,8
China	Amoy tael	.71	.70,2	.71,6	.70,5	.69,1	.70,5	.70,9
	Canton tael	.70,8	.70	.71,4	.70,3	.68,9	.70,3	.70,7
	Chefoo tael	.67,9	.67,2	.68,4	.67,4	.66,1	.67,4	.67,8
	Chinkiang tael	.69,3	.68,6	.69,9	.68,9	.67,5	.68,8	.69,3
	Fuchau tael	.65,6	.65	.66,2	.65,2	.64	.65,2	.65,6
	Haikwan tael	.72,2	.71,4	.72,8	.71,8	.70,3	.71,7	.72,1
	Hankau tael	.66,4	.65,7	.67	.66	.64,7	.65,9	.66,3
	Ningpo tael	.68,2	.67,5	.68,8	.67,8	.66,5	.67,7	.68,2
	Niuchwang tael.	.66,5	.65,9	.67,1	.66,1	.64,8	.66,1	.66,5
	Shanghai tael	.64,8	.64,1	.65,4	.64,4	.63,1	.64,4	.64,8
	Swatow tael	.65,5	.64,9	.66,1	.65,1	.63,9	.65,1	.65,5
	Takao tael	.71,4	.70,7	.72	.71	.69,6	.70,9	.71,4
	Tientsin tael	.68,8	.68	.69,4	.68,3	.67	.68,3	.68,7
Colombia	Silver peso	.43,9	.43,4	.44,3	.43,6	.42,7	.43,6	.43,8
Ecuador	do	.43,9	.43,4	.44,3	.43,6	.42,7	.43,6	.43,8
India*	Silver rupee	.20,8	.20,6	.21	.20,7	.20,3	.20,7	.20,8
Mexico	Silver dollar	.47,7	.47,2	.48,1	.47,4	.46,4	.47,3	.47,6
Persia	Silver kran	.08,1	.08	.08,2	.08	.07,9	.08	.08,1
Peru	Silver sol	.43,9	.43,4	.44,3	.43,6	.42,7	.43,6	.43,8

*The commercial value of the rupee to be determined by consular certificate.

FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalents.
Almude	Portugal	4.422 gallons.
Ardeb	Egypt	7.6907 bushels.
Are	Metric	0.02471 acre.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentine Republic	25.3175 pounds.
Do	Brazil	32.38 pounds.
Do	Cuba	25.3664 pounds.
Do	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do	Venezuela	25.4024 pounds
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons.
Arshine	Russia	28 inches.
Arshine (square)	do	5.44 square feet.
Artel	Morocco	1.12 pounds.
Baril	Argentine Republic and Mexico	20.0787 gallons.
Barrel	Malta (customs)	11.4 gallons.
Do	Spain (raisins)	100 pounds.
Berkovets	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bouw	Sumatra	7,096.5 square meters.
Bu	Japan	0.1 inch.
Butt (wine)	Spain	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do	India (Madras)	500 pounds.
Cantar	Morocco	113 pounds.
Do	Syria (Damascus)	575 pounds.
Do	Turkey	124.7036 pounds.
Cantaro (cantar)	Malta	175 pounds.
Carga	Mexico and Salvador	300 pounds.
Catty	China	1.333⅓ (1⅓) pounds.
Do*	Japan	1.31 pounds.
Do	Java, Siam, and Malacca	1.35 pounds.
Do	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do	Darmstadt	110.24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do	Nuremberg	112.43 pounds.
Do	Prussia	113.44 pounds.
Do	Sweden	93.7 pounds.
Do	Vienna	123.5 pounds.
Do	Zollverein	110.24 pounds.
Do	Double or metric	220.46 pounds.
Chih	China	14 inches.

*More frequently called "kin." Among merchants in the treaty ports it equals 1.33⅓ pounds avoirdupois.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Coyan	Sarawak	3,098 pounds.
Do	Siam (Koyan)	2,667 pounds.
Cuadra	Argentine Republic	4.2 acres.
Do	Paraguay	78.9 yards.
Do	Paraguay (square)	8.077 square feet.
Do	Uruguay	Nearly 2 acres.
Cubic meter	Metric	35.3 cubic feet.
Cwt. (hundredweight)	British	112 pounds.
Dessiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	Half ounce.
Egyptian weights and measures	(*See* CONSULAR REPORTS No. 144.)	
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.
Do	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail (raisins)	Spain	50 pounds.
Frasco	Argentine Republic	2.5096 quarts.
Do	Mexico	2.5 quarts.
Frasila	Zanzibar	35 pounds.
Fuder	Luxemburg	264.17 gallons.
Garnice	Russian Poland	0.88 gallon.
Gram	Metric	15.432 grains.
Hectare	do	2.471 acres.
Hectoliter:		
Dry	do	2.838 bushels.
Liquid	do	26.417 gallons.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	6 feet.
Kilogram (kilo)	Metric	2.2046 pounds.
Kilometer	do	0.621376 mile.
Klafter	Russia	216 cubic feet.
Koku	Japan	4.9629 bushels.
Korree	Russia	3.5 bushels.
Kwan	Japan	8.28 pounds.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,480 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	11⅔ bushels.
Do	Spain (salt)	4,760 pounds.
League (land)	Paraguay	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Castilian	7,100 grains (troy).
Do	Argentine Republic	1.0127 pounds.
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01465 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.
Liter	Metric	1.0567 quarts.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1⅞ acres.
Do	Nicaragua and Salvador	1.727 acres.
Marc	Bolivia	0.507 pound.
Maund	India	82⅔ pounds.
Meter	Metric	39.37 inches.
Mil	Denmark	4.68 miles.
Do	Denmark (geographical)	4.61 miles.
Milla	Nicaragua and Honduras	1.1493 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.84 pounds.
Do	Hungary	3.0817 pounds.
Do	Turkey	2.85418 pounds.
Do	Hungary and Wallachia	2.5 pints.
Pic	Egypt	21¼ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133⅓ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands (hemp)	139.45 pounds.
Do	Philippine Islands (sugar)	140 pounds.
Pie	Argentine Republic	0.9478 foot.
Do	Castile	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentine Republic	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile, Chile, Mexico, and Peru	101.61 pounds.
Do	Greece	123.2 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Do	Metric	220.46 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5¼ pounds.
Sagen	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	0.02451 acres.
Seer	India	1 pound 13 ounces.
Shaku	Japan	11.9305 inches.
Sho	do	1.6 quarts.
Standard (St. Petersburg)	Lumber measure	165 cubic feet.
Stone	British	14 pounds.
Suerte	Uruguay	2,700 cuadras (see cuadra).
Sun	Japan	1.193 inches.
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.25 acre.
To	do	2 pecks.
Ton	Space measure	40 cubic feet.
Tonde (cereals)	Denmark	3.94783 bushels.
Tondeland	do	1.36 acres.
Tsubo	Japan	6 feet square.
Tsun	China	1.41 inches.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Tunna	Sweden	4.5 bushels.
Tunnland	do	1.22 acres.
Vara	Argentine Republic	34.1208 inches.
Do	Castile	0.914117 yard.
Do	Central America	32.87 inches.
Do	Chile and Peru	33.367 inches.
Do	Cuba	33.384 inches.
Do	Curaçao	33.375 inches.
Do	Mexico	33 inches.
Do	Paraguay	34 inches.
Do	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.663 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
Centigram ($\frac{1}{100}$ gram) equals 0.1543 grain.
Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
Gram equals 15.432 grains.
Decagram (10 grams) equals 0.3527 ounce.
Hectogram (100 grams) equals 3.5274 ounces.
Kilogram (1,000 grams) equals 2.2046 pounds.
Myriagram (10,000 grams) equals 22.046 pounds.
Quintal (100,000 grams) equals 220.46 pounds.
Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measures.

Milliliter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
Liter equals 0.908 quart.
Decaliter (10 liters) equals 9.08 quarts.
Hectoliter (100 liters) equals 2.838 bushels.
Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measures.

Milliliter ($\frac{1}{1000}$ liter) equals 0.0388 fluid ounce.
Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
Liter equals 1.0567 quarts.
Decaliter (10 liters) equals 2.6418 gallons.
Hectoliter (100 liters) equals 26.417 gallons.
Kiloliter (1,000 liters) equals 264.18 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.
Meter equals 39.37 inches.

Decameter (10 meters) equals 393.7 inches.
Hectometer (100 meters) equals 328 feet 1 inch.
Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
Are (100 square meters) equals 119.6 square yards.
Hectare (10,000 square meters) equals 2.471 acres.

CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

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RAILWAYS IN BRAZIL.

The Department has received the following report from Mr. Thomas C. Dawson, secretary of legation in Brazil:

There is no publication, either governmental or private, devoted to Brazilian railroads. General statistics are not gathered. Until last year, there was no guide attempting to give time-tables and tariff schedules. The one that has appeared, being new, is necessarily imperfect. Reports are made by the Government railroads, and certain roads which are fiscalized by the Government are required to make reports to the Minister of Public Works. These reports are, however, made according to no uniform system. No two of them are alike, and details given in one are lacking in others. I have attempted to collate the information given in them, adding what could be gathered from the annual reports to stockholders made by the management of individually operated roads and the data appearing in the published reports of the different States. The last publication attempting to treat compendiously of the railroads of Brazil is a sketch which appeared in 1889, written by Fernandes Pinheiro. This and the summary of the railroads of São Paulo made by Consul Hill, of Santos (Commercial Relations, 1897, page 805), have proved of value. Most of the statistics herein given are for the year ended December 31, 1897. In the case of a few of the more important roads, those for 1898 have been obtainable and are given.

There are now in Brazil sixty-three separately operated lines of steam railway. The length of line under traffic is 14,801 kilometers (9,197 miles), of which 1,462 kilometers (908 miles) are broad gauge (1.6 meters=1.7 yards), 12,459 kilometers (7,742 miles) are 1-meter

(1.09 yards) gauge, and 887 kilometers (551 miles) are three-fourths of a meter (four-fifths of a yard). The Government operates five lines, with a length of 2,071 kilometers (1,287 miles); the States four, with a length of 177 kilometers (110 miles); guaranteed companies, 7,382 kilometers (4,587 miles); and nonguaranteed companies, 5,171 kilometers (3,213 miles). The latter two items are only approximately accurate, owing to the complicated nature of the various national and State guaranties and the lapse of some of them. The national guaranties aggregate 4,281 kilometers (2,660 miles) under traffic. The Union and the States have constructed 3,430 kilometers (2,131 miles). Four Government lines with a total length of 1,182 kilometers (734 miles) were leased to companies within the last two years. Propositions for similar leases of three other Government lines are now under consideration. One State line has just been sold to the Union. Propositions to lease another to a company are now being considered by the administration of the State which owns it.

The population of Brazil is scattered along the coast. The large cities are, with one exception, seaports. The interior is mountainous. Inland communication between the ports is difficult, and each has its tributary territory dependent for intercourse with the outside world upon it alone. The railroads are therefore divided into separate systems, each having its terminus at a different port and, except in two instances, not connected with each other.

Beginning at the most northerly port and following around the coast, the systems may be enumerated as follows:

Para, with a single short line.

Maranhão, with one short line beginning a considerable distance up the navigable river Itapicuru, which flows into the sea at the port of Maranhão.

Camocim, a small seaport in the State of Ceara, with one line.

Fortaleza, the principal seaport of the same State, with one line.

Natal, the capital and port of Rio Grande do Norte, with one line.

Parahiba, the capital of the State of the same name, with one line.

Recife, or Pernambuco, which is the center from which six lines radiate, covering pretty well the eastern part of the State. The most southern of them connects with the next system.

Maceio, the capital and port of Alagoas, with one line.

Piranhas, a river port at the head of navigation on the Lower San Francisco. It has a line, the Paulo Affonso, which runs around the great cataracts and connects the navigable upper and lower waters of the river.

Bahia, or rather the great bay which is that city's harbor, is the center for four lines.

Caravellas, the southern port of the State of Bahia, has one line.

Victoria, the capital of Espiritu Santo, has one line now under construction, which it is intended to connect with the Rio system.

Cachoeiro da Itaperim, an unimportant port at the head of small-boat navigation on the river of that name, which is in the southern part of the State of Espiritu Santo. This will shortly be connected with the next, and its outlet will then cease to be by the river.

Rio de Janeiro is the center of the most extensive system. It covers the State of the same name and the southern part of Minas Geraes, and has an extent of 3,700 miles, nearly half the total mileage of the country. This system is connected at two points with the next, and the two may be considered as constituting a single system.

Santos, the sole port of the principal coffee State, São Paulo, and the city of São Paulo, the capital and largest city of the State, have an extensive system—over 2,000 miles.

Laguna, an unimportant port in Santa Catharina, has one short line.

Paranagua, the port of the State of Parana, has one considerable line which in the near future will be connected with the São Paulo system.

Porto Alegre, the capital and second port of Rio Grande do Sul, has four lines tributary to it.

Rio Grande, Brazil's most southerly seaport, has one line, which will shortly be connected with the Porto Alegre system and ultimately with the next given.

Uruguayana, a river port on the Uruguay River, which is there the Argentine frontier, has a line isolated from the other Brazilian roads, but connected with those of the Republic of Uruguay.

HISTORICAL.

The first railroad in Brazil was opened for traffic in 1856. It ran from the head of Rio Bay to the foot of the mountain range upon the crest of which is the summer capital—Petropolis. It is now part of the Leopoldina, and has been extended up the mountain to and through Petropolis. It was called the Mauá Railway, in honor of its promoter—Evangenista de Souza, Viscount Mauá—to whom the distinction of being the pioneer of Brazilian railroad building belongs. The enterprise was private, and no subvention was given by the Government.

With this exception, the early railroads of Brazil were built with Government assistance, and very few of the railways of this country

owe their origin to unaided private initiative. In 1852, the Imperial Government had passed a law providing for a guaranty of 5 per cent on the capital which might be expended on lines deemed important by the Executive, and granting other privileges, among them the right of free entry of material, the monopoly of carrying within a certain zone, the right to purchase Government lands at a nominal price, the right of organizing the company under foreign law, and that of arbitration in case of disputes with Brazilian authorities. A substantially similar system has continued in force to the present time. It was devised to induce the investment of foreign capital. Until recently, when Belgian capital has begun to be considerably employed, nearly all the railway building in Brazil was done by English companies or by the Government itself.

Under the original law of 1852, four broad-gauge lines—one from each of the four principal seaports—were begun. The Dom Pedro II, from Rio, was opened to the foot of the coast range, 30 miles, in 1858. By 1865, 83 miles had been built, but the company was at the end of its resources; and in that year it was taken over by the Government. It has since been extended to the city of São Paulo and to the interior of Minas Geraes, and now has a length of 772 miles and is the most important railroad system in the country. After the establishment of the Republic, its name was changed to the "Central Railway of Brazil."

The Pernambuco line was opened to Palmares in 1859, a distance of 78 miles. It has not since been extended.

In 1860, the Bahia and San Francisco was opened to Alagoinhas, 76 miles.

In 1866, the São Paulo Railway, now the most profitable in Brazil, was opened from Santos to São Paulo and Jundiahy, 87 miles. It connects the city of São Paulo, the center of the most productive coffee region in the world and of a considerable system of railroads, with the port of Santos, and is practically the only outlet for the State.

It was soon found that narrow gauges were better adapted to Brazilian conditions and requirements than broad. These four original lines were followed by only one other broad-gauge line.

In the early seventies were built the Baturité, in the northern State of Ceara; the Conde d'Eu, in Parahiba; the Natal and Nova Cruz, in Rio Grande do Norte; the Great Western, in Pernambuco; the Central of Bahia and the Nazareth, in Bahia. What is now the Leopoldina system in Rio and Minas was begun; the Paulista, a broad-gauge extension of the São Paulo under a separate company, was built; and the Mogyana and Soracabana systems, in the same State, were begun. At this time, the Dom Pedro II was extended

into the Parahiba Valley, on its way to the interior of Minas and São Paulo.

The late seventies and early eighties were the years of the greatest activity in railroad building in Brazil. The country had recovered from the effects of the expensive and tedious Paraguayan war, the culture of coffee and rubber had been greatly developed and were profitable, the country enjoyed an entire freedom from revolutions and serious political disturbances, and the credit of the Government was excellent. The Bragança line in Para was built; the Baturité was extended; the Sobral, also in Ceara, was begun; the Pernambuco Southern, the Pernambuco Central, the Paulo Affonso, the Ribeirao Bonito, and the Alagoas Central were built in the States of Pernambuco and Alagoas, nearly completing the systems as they at present exist in the northern States. The San Francisco, in Bahia, was begun, the Central of Bahia extended, and the Caravellas-Philadelphia line, in the same State, built. The Leopoldina system was increased to over 2,000 kilometers (1,243 miles), covering the State of Rio and parts of Minas and Espiritu Santo. The Dom Pedro II was extended to the city of São Paulo and north into the center of Minas to the productive coffee and mining regions. Extensive branches and connecting lines for the Dom Pedro II were built, among them the Oeste de Minas, the Muzambinho, the Minas and Rio, and the Sapucahy, all in the State of Minas. The Rio Claro, the narrow-gauge extension of the Paulista, the Bragantina, also in São Paulo; the Dona Thereza Christina, in the State of Santa Catharina; the Paranagua-Curityba line in Parana; the Uruguayana, the Southern Brazilian and the Great Southern—all in Rio Grande do Sul—were constructed; and the Paulista, Mogyana, and Soracabana in São Paulo were greatly extended.

In 1889, just before the Republic was proclaimed, there were 8,890 kilometers (5,524 miles) of railroad in operation. At the end of 1887, the last year of the Empire for which complete statistics are available, there were 8,486 kilometers (5,273 miles) in operation, of which 2,013 kilometers (1,251 miles) belonged to the Imperial Government, 95 kilometers (59 miles) to the governments of provinces, and 6,378 kilometers (3,963 miles) to companies. Of the kilometerage owned by companies, 2,585 kilometers (1,606 miles) were guaranteed by the Empire, 1,552 kilometers (964 miles) were guaranteed by the provinces, and 2,241 kilometers (1,393 miles) had no guaranty. One thousand three hundred and sixty-six kilometers (849 miles) were broad gauge and 7,120 kilometers (4,424 miles) were narrow gauge.

In the ten years since the establishment of the Republic, 5,672 kilometers (3,525 miles) have been built and put in operation, all narrow gauge except the duplication of portions of the São Paulo

and the Central. These double tracks are, however, not counted in the total above given. The principal new lines are the Maranhão, the Campista, the Bello Horizonte, the Melhoramentos, the Santa Maria in Rio Grande, and the Espiritu Santo Southern. The greater part of the added mileage has been extensions of existing lines. Large additions have been made to the Mogyana, the Soracabana, the Central, the Parana, the Baturité, the San Francisco, the Uruguayana, and the Pernambuco Southern. The larger proportion of this building took place before 1896. Since that date it has been largely discontinued, owing to the financial embarrassments of the Government and the economic crisis. In 1896, the Government was engaged in building or extending the following lines: The Baturité, the Sobral, the Pernambuco Central, the San Francisco, the Central of Brazil, and the Uruguayana; but in that year work was stopped on all of these. Besides the private roads already mentioned, work was then going on on the Muzambinho, the Oeste de Minas, the Parana, the Sapucahy, and the Paulista. The building now going on is almost entirely in the States of São Paulo, Rio Grande do Sul, Parana, and in Rio on the Leopoldina.

DETAILS AS TO SEPARATE LINES.

In the State of Para there is one railroad—the Bragança—which is owned and operated by the State. Propositions for its lease to a company have been advertised for, and those received are now under consideration. The income is insignificant, amounting in 1898 to $65,000. Its operating expenses were $214,000. It runs west from the capital 105 kilometers (65 miles) through certain colonies. Minor extensions are planned, and something has been done toward their construction.

In the State of Maranhão there is also but one short line, recently built by a company under a Governmental guaranty, and operated at a small loss. It connects the navigable river Paranahiba, from a point opposite the capital of the State of Piauhy, Therezina, with the River Itapicuru, which is navigated to its mouth near the city of Maranhão. There is only one train, which runs up one day and back the next.

There are two lines in Ceara, both built by the Imperial Government on the occasion of the great drought which devastated that fertile State in the early eighties. The Sobral runs from the unimportant port of Camocim into the interior a distance of 216 kilometers (134 miles). The fare is $1.50 first class, and a train runs each way every other day. The Baturité is a more important line. It runs from Fortaleza, the capital and principal city of the State,

to and beyond the town of Baturité, a famous health resort in a country which would be excellent, if it were not for the frequently recurring droughts. Both these lines were conducted by the Federal Government until the last two years, at a loss. They are now leased to private companies. The company operating the Baturité has turned what was a deficit of $30,000 in the year 1897 into a net surplus of $45,000 for the twelve months ended April 30, 1899.

In Rio Grande do Norte, there is the Natal and Nova Cruz, which extends from the capital and principal port back into a sugar district. It was built under a governmental guaranty twenty years ago, and it was expected to forward greatly the development of the State, and soon to be on a paying basis. However, the expenditures are still twice its income, and the dividends of the English stockholders are entirely derived, therefore, from the guaranty. There is one train a day each way; the fare for the 121 kilometers (75 miles) is $1.35, and the running time five and a half hours. The unprosperous condition of this line is probably largely due to the depression of the sugar industry, the principal resource in former times of that part of Brazil.

The Conde d'Eu, in the State of Parahiba, was built about the same time and has had much the same history. The deficits are, however, much smaller, and the receipts are nearly four times as great per mile. Its sea terminus is the city of Parahiba, the capital and principal port of the State.

The city of Recife, usually called by foreigners Pernambuco, is the center of six lines which cover the eastern part of the State of that name.

The Great Western, owned and operated by an English company, is the most prosperous in the State. Notwithstanding the depressed condition of the sugar-planting industry and the great fall in the value of the Brazilian paper money, which has reduced the gold value of the income, it continues under Mr. Holt's management to pay a dividend. In 1898, its net earnings were $29,700, equivalent in Brazilian paper to 3.7 per cent of the cost of the line in milreis. The fare from Pernambuco to Timbauba, the northeastern terminus, is $1 first class and 60 cents second, the distance being 118 kilometers (73 miles). A short link would connect this line with the Conde d'Eu, in the State of Parahiba, and another short link would join the latter with the Natal and Nova Cruz in Rio Grande do Norte. The completion of these two links would give through rail connection from Maceio on the south to Natal on the north, uniting Recife and Parahiba as well. The former of the links has already been graded by the Government, but was abandoned in 1896. A contract has just been made by the Great Western with the Government, by which the

company takes over the uncompleted line and agrees to finish it within twenty months.

The oldest line in the State of Pernambuco is the Palmares broad gauge, officially known as the Recife and San Francisco. The original plan was to build it as far as the River San Francisco, at a point above the Paulo Affonso Falls. The English company stopped construction when only 125 kilometers had been built. These 78 miles cost the immense sum of $9,166,300, all of which was guaranteed at the rate of 7 per cent per annum—5 per cent by the Federal Government and 2 per cent by that of the State. In 1897, the surplus of revenue over expenses was seven-tenths of 1 per cent, so the Government had to pay nine-tenths of the total guaranty. It may be remarked in passing that the governmental guaranty to most State-aided lines in Brazil is to the effect that the net income of gross receipts over operating expenses will be equal to the percentage guaranteed. If the receipts are greater than the income, the net surplus is deducted from the amount of the guaranty, and the difference is what the Government is obligated to pay. If, on the other hand, the expenses are greater than the income, the Government does not make up this deficit. In that case, the dividend received by the stockholders is the difference between the net loss on operation and the total percentage guaranteed by the Government. It would seem, therefore, that there would be no incentive for the management to do anything more than make receipts balance expenditures, unless it were possible to raise the net income to a figure higher than the amount of the guaranty. To carry out in practice an effort to make receipts and expenditures exactly balance is impossible, and the managements of roads which show deficits in their annual reports to stockholders are the objects of criticism from those stockholders. Further, at present the Government has suspended the payment of guaranties in gold, and the companies are compelled to take bonds as the guaranties fall due. These bonds have been sold by the companies receiving them at a discount of from 13 to 26 per cent.

In the late seventies, the Government began on its own account a narrow-gauge extension of the Palmares line, the intention being to reach the River San Francisco. It has only been built as far as Garunhuns, in the southern part of the State, with a branch of 48 kilometers (30 miles) connecting with the Alagoas Central. The main line is called the Pernambuco Southern, and is 146 kilometers (91 miles) long. It is still owned and operated by the Government. In the last year for which statistics have been published, the operating expenses were nearly four times the income. The total deficits the national treasury has had to meet in keeping this road in operation have been over $1,500,000. Efforts are being made to lease it.

The Pernambuco Central runs west toward the center of the State. Its length is 180 kilometers (112 miles). It was built by the Government and until recently operated by the Union. Its expenses exceeded its income, and it was lately leased to an English company.

In the State of Alagoas there is the Alagoana Central, running from Maceio, the capital and principal port, into the interior. It is 150 kilometers (93 miles) long, is owned by an English company, and its income slightly exceeds its expenditure. The Government, however, has to make up the larger proportion of the guaranty.

The Paulo Affonso begins at the head of navigation from the sea on the San Francisco River, at a point some 400 miles above its mouth. It connects the lower river with the upper around the great cataracts called Paulo Affonso. This line, which is 116 kilometers (72 miles) long, was built and is still operated by the Government. Steamers run weekly from Penedo, the port at the mouth of the river, to Piranhas, the lower terminus of the railroad, and there a train meets them. There is only this one train a week. Even so, the expenses are three times the income, for the business is insignificant. It was expected that the road would stimulate the development of the extensive and fertile San Francisco Valley by giving it an outlet to the ocean; but in the twenty years since the line was built, the increase of business has been slow. The original investment of the Government in this road was $4,700,000.

There are six separately managed lines in the State of Bahia.

The first one built was from the city of Bahia itself to Alagoinhas, 123 kilometers (76 miles). It is broad gauge and was opened for traffic in 1863. A narrow-gauge branch line has since been added to Timbo, which is under the same management, although owned by a different corporation. The guaranteed capital of the main line is $8,800,000 and that of the branch $1,457,000. In 1891, the main line made a small net income, but ever since has shown large and increasing deficits. The branch line has never paid. The dividends of the English stockholders are therefore entirely derived from the Federal guaranties of 5 per cent and the State of 2 per cent. As with Pernambuco in the case of its 2 per cent guaranty on some of the lines in that State, the State of Bahia has failed to pay this guaranty, and it has been met by the Federal Government. The depressed condition of the sugar industry and the severe droughts from which Bahia has lately suffered have doubtless greatly contributed to the poor financial results of this road, but the total results since its inauguration can not be regarded as anything but disappointing. It is the sole road entering the second city of Brazil, and the country thereabouts is, after Pernambuco, the oldest-settled region of the

Republic. The first-class fare from the city to Alagoinhas is $1.10 and the second class 70 cents. During the year 1897, the total number of passengers was 291,000, all but 61,000 of whom were second class. The population of the city of Bahia is something less than the number of passengers for the year. It will be seen how little the tastes and necessities of the inhabitants of northern Brazil lead them to avail themselves of railroad traveling.

From Alagoinhas, the Federal Government opened in 1880 the first section of the narrow-gauge extension, upon which building has been in progress, with interruptions, ever since. It has now reached the San Francisco River at the town of Joazeiro, a distance of 452 kilometers (281 miles), where it connects with the steamers which run up that river and its tributary—the Rio das Velhas—1,000 miles into the center of the State of Minas Geraes, to a point not far from the diamond district. The cost of this railroad has been $11,000,000. Except in one year, it has always been operated at a loss. The exception was 1897, when the amounts charged against the War Department for the transportation of the army and material engaged in suppressing the Canudos rebellion made the road show a credit balance. In 1894, the deficit was $89,000; in 1895, $100,000; in 1896, $109,000. The operation since 1897 shows a deficit. Propositions for the leasing of this line are now being considered by the Government. Of the several propositions submitted, one is by the State of Bahia and another by a syndicate in which some Americans are interested.

The Santo Amaro is an old line 36 kilometers (22 miles) long, built, owned, and operated by the government of Bahia. Its expenses are more than twice its income. In the finance minister's report, the expenses are given in bulk, and no income appeared at that time to have been turned over to the treasury by the management of the road. The receipts, as estimated by the previous legislature, are taken as the receipts of the year, in default of any available report in the State publications of the actual receipts. It is not improbable that the estimate was excessive, in view of the falling off of business of other Bahia roads and the natural optimism to be observed in governmental estimates of expected income.

The Central of Bahia is an important line owned and operated by an English company. It is guaranteed. The terminal point is on a navigable river which runs into the Bahia harbor on the opposite side from the city. The main line runs up the Paraguassu Valley, and is the sole outlet for the Bahia diamond fields. The territory produces largely of tobacco and sugar. The road seems to be economically managed, and is paying a net income in spite of the drought and the fact that it is guaranteed.

The Nazareth line also starts from the west side of the Bay of Bahia. Its territory gives it a good traffic in coffee and tobacco, and its 99 kilometers (62 miles) pay 7 per cent paper on its cost. An English company owns and operates it, and it has a guaranty.

The Caravellas line starts from the port of that name in the southern part of the State. A portion of it has been in operation since the time of the Empire. It has been considerably extended of late by the guaranteed Brazilian company which owns it. The intention is to build through the center of Minas Geraes from east to west, a region rich for agriculture and in gold and diamonds, but which has poor transportation facilities. Powerful politicians of the State of Minas are officers of the company, and the respective States through which it passes have given it a considerable guaranty.

The Southern of Espiritu Santo is a State-owned road now under construction. It is really not yet opened for traffic, the 21 kilometers (13 miles) reported as laid with rail and under operation being operated principally to aid in the extension of the line. It begins at the port of Victoria and is to run nearly due west to the southwestern borders of the State. The territory is excellent for coffee and as yet is little developed. The engineering difficulties to be encountered are considerable, as is the case with nearly all the lines near the coast in the central part of Brazil. The State finances are not in a condition to insure a prompt completion.

The Cachoeiro Railroad starts from the head of navigation on the Itaperim River, in the southern part of Espiritu Santo. It has been in operation since 1887 and penetrates a fertile coffee district. Having no connection by rail nor a deep-water port, it has not been profitable to operate. The coffee is taken down the river in small boats, whence it has to go to Victoria or Rio in coasters, or else it is taken overland to the Leopoldina terminus. The latter road, coming up from Rio, has been built to within a few miles of Cachoeiro do Itaperim, and when the connection is made, as is expected shortly, it would seem probable that the Cachoeiro will become part of the Leopoldina system.

The Campista is a small freight line running from the great coffee center—Campos—down to tide water at the mouth of the Parahiba River. One of the large Brazilian steamship companies which have the monopoly of the coast trade is interested in this line. The coffee which constitutes its principal outbound traffic is taken by coasters to one of the great ports and there transshipped, if intended for export. The line, being in a level country, was cheaply constructed and is understood to have been directly or indirectly profitable to the builders.

The Leopoldina is the line which has the greatest extension in

Brazil, including at present 2,190 kilometers (1,361 miles)—more than one-seventh the total of the country. It has been formed by the consolidation of a large number of lines, some of which were built by the then province of Rio and others by private companies, the latter being sometimes guaranteed and subventioned and sometimes not. The original Leopoldina was a short line in the southeastern part of Minas Geraes. This was consolidated with the Cantagallo line, which had been built by the province of Rio, and which runs from Nictheroy, on the opposite side of the bay from the city of Rio, through the cities of Nova Friburgo and Cantagallo, in the central part of the State, to its northern border. To these have since been added numerous lines in the eastern part of Rio, the southern part of Minas, and the western part of Espiritu Santo. The financial history of the system has been a checkered one. In 1887, it was reported that the Brazilian company then owning it had made a net income of $550 per kilometer (0.6214 mile), or about 3 per cent on the cost of the 1,052 kilometers (654 miles) then included in the system. Subsequent operations were not so successful. The capitalization, bonded debts, and guaranties on the different portions of the system were very complicated. Two years ago, it was taken over by an English company incorporated for the purpose of completely reorganizing it. The plan outlined contemplates the retirement of the stock and securities of the separate lines and their substitution by stock and bonds of the new company. The legal difficulties have been very considerable and have not yet been entirely surmounted. Last year, certain minority bondholders succeeded in obtaining by legal process possession of the Carangola division, one of the most valuable feeders. Lately, however, the decision of the court of appeals has been in favor of the main company. A year ago Mr. F. W. Barrow, an English manager who had been remarkably successful in the Argentine Republic, was imported; his management has been vigorous and he seems likely to earn the large salary and bonus which is to be given him if he makes the system succeed. The chief lines of which the system has been built up are as follows:

(1) The Cantagallo line in the central part of the State of Rio. Built by the province, it was opened for traffic in the early seventies. This line is remarkable for the engineering difficulties that have been overcome in crossing the coast serra into the Parahiba Valley. The ascent has a grade of 8.3 per cent, which is said to be the steepest track in the world up which trains go without the aid of cogs or cables.

(2) The Leopoldina proper, named after the second daughter of the Emperor, is in the southeast part of Minas Geraes and runs

north more than 200 miles from the southern border of that State. It has a branch connecting it with the Central of Brazil, and most of the traffic of this division reaches the seaboard over the Government system. However, a link is now under construction by the new Leopoldina company from Areal, on the Gran Para division, to Entre Rios, and this will give the Minas division an outlet over the tracks of its own system. This link will be in operation by April, 1900.

(3) The Gran Para and Norte lines form a division entirely separated from the rest of the system, up to the present. They are upon the Rio side of the harbor and serve the summer capital—Petropolis—and the stations beyond. This line is remarkable as having been the first railway to be operated in Brazil. It was put in operation in 1856 as far as the foot of the mountains, on the top of which is Petropolis. It was then but 10 miles long, its harbor terminus being reached then, as now, by ferries from Rio City and the journey from its other end being continued to Petropolis over a carriage road. The line up the mountain was finished in 1881. The cog system used to climb the 2,800 feet of ascent in less than 4 miles is remarkable and has often been described by travelers. At the foot the train is divided into sections of two light cars each, and thus the ascent is made in thirty-five minutes.

(4) The Macahé-Campos line branches from the Cantagallo near Nictheroy and runs along the coast region of Minas, through the port of Macahé, on to the important city of Campos, near the mouth of the great Parahiba River, there turning to the north and extending up into the southeastern part of Minas. This division connects with the Leopoldina proper, first described, and has several branches.

(5) The Carangola line runs north and east from Campos into good coffee districts of Espiritu Santo and Minas.

(6) The Piau line connects Juiz da Fora, the principal city of southern Minas, with the main Minas Leopoldina division.

Next to the Gran Para, the Cantagallo is the oldest part of the system. The Leopoldina proper dates from 1872. The Cantagallo and Leopoldina proper were consolidated in the time of the Empire. January 1, 1888, the consolidated company had 1,204 kilometers (748 miles) in operation; its capital was $27,500,000; its gross receipts were $1,400,000 a year and its expenses for operation $850,000. After the Republic the Macahé-Campos line, the Gran Para, and other smaller branches were added; but the results were not so favorable. With the advent of the present management, matters have been going better. In 1898, the net income was $326,000, and the returns of the current year will be something better.

The next railroad in geographical order is the Central of Brazil, which is the most important in the country, having the largest income and expenditure and reaching the most populous and fertile portions of the States of Rio and Minas, connecting the two greater cities of Brazil—Rio and São Paulo—and having a large number of connecting lines as feeders, besides enjoying the advantage of a monopoly of the terminal facilities at the greatest port, and having most of the suburban traffic of a city of 750,000.

Originally, this road was known as the Dom Pedro Segundo Railway. It was begun by a company in 1857 under a governmental guaranty. In 1858, the first section of 48 kilometers (30 miles) was opened. In 1860, it reached the foot of the coast serra. The expense and difficulty of getting over the mountains were so great that it was not until 1865 that the line was completed over the range into the Parahiba Valley, a distance of only 133 kilometers (83 miles) from Rio de Janeiro; and the company was at the end of its resources. In that year the Imperial Government took it over, and work was pushed more rapidly, reaching Entre Rios, 198 kilometers (123 miles) from Rio, in 1868, and within the next few years getting over the Mantiqueira range to the great plateau of Minas. Branches were also built down the Parahiba Valley from Entre Rios and west from Barra do Pirahy to the boundary of the State of São Paulo. On January 1, 1888, there were 786 kilometers (488 miles) in operation, all broad gauge except 61 kilometers (38 miles). Its gross receipts for 1887 were reported at $5,542,300, and its operating expenses at $3,559,200. Since the Republic, the line has been increased to a length of 1,222 kilometers (759 miles). Besides the branches already mentioned, there is one to Ouro Preto, the old capital of Minas. The main line now runs north by a narrow-gauge extension to the heart of the gold-mining region in the Upper San Francisco Valley, and the Government has acquired and incorporated with the line the narrow-gauge road built by a private company from the western end of the old Dom Pedro II to the city of São Paulo. The Rio suburban traffic has vastly increased lately.

The capital cost of this system to the Government, as nearly as it can be ascertained from the departmental reports, has been $97,300,000 gold, or $126,000 per mile. There are three tracks for 17 kilometers (10½ miles) out of Rio and a double track 4 kilometers (2½ miles) farther. The roadbed is in general solidly built, the rails are sufficiently heavy, the track well ballasted, the bridges and culverts are well constructed of stone or iron for the most part, the station houses and platforms are as a rule excellent, the central station at Rio is large and commodious, and the rolling stock is up to the average American standard, although perhaps the condition of

repair in which it is kept leaves something to be desired. Besides the numerous suburban trains, there are seven daily trains as far as Barra do Pirahy, the junction point of the São Paulo and Minas divisions; two trains a day each way go to São Paulo; three as far as Lafayette, the end of the broad gauge on the Minas line, two of which go through to the end of the line. To Juiz da Fora and Barbacena, the large cities of southern Minas, there are four daily trains. Good sleeping cars run on the through night trains as far as the broad gauge goes.

The passenger fares are low at present, the base rate being at the present value of the milreis only 1 cent a kilometer (0.6214 mile) first class. This rate does not include baggage.

In common with all other institutions in Brazil in receipt of incomes more or less fixed, and payable in legal tender according to an already determined scale of charges, this railroad has suffered from the depreciation of the paper currency. An attempt has been made to remedy this in part by the adoption, as to certain articles of freight, of a sliding scale of rates. According to recent regulations on this subject, the published rate can only be applied when the milreis is worth 10d. sterling (20 cents). Every reduction of a penny in the market rate of the milreis raises the rate 5 per cent, and every increase reduces it by the same percentage. The same system is applied to the Leopoldina by Government regulation.

For the last several years, the Central has been losing a great deal of money for the Government. The estimates made each year have shown that a small net profit was hoped for, but these expectations have not been justified by the results. The errors seem to be mostly in underestimating the expenses. In giving the receipts and expenditures of the Central, it is impossible to arrive at exact accuracy by fiscal years, items of expense being, of course, carried over from one year to another. The Congressional appropriations made to cover deficits do not always show for what years the deficits were incurred.

For the last five years the receipts of the Central, as reported to the Government auditing department, the Tribunal of Contas, have been 141,865 contos ($25,535,700), and the appropriations made by Congress have been 167,021 contos ($30,063,780). The average value in United States currency of the conto (1,000 milreis) during that period has been about $180, and it has varied between $126 and $234.

The Congressional appropriations for the year 1898 were 45,601 contos ($8,208,180). Since other appropriations were made by the Congress lately adjourned for expenses incurred in years prior to 1897, it is possible that the appropriations made to date may not

cover all the expenses that will ultimately have to be met. The apparent deficit on the year's operations was therefore 12,701 contos ($2,286,180), and this may be increased.

For the year 1897, the management's report gives no exact statement of expenditure, but it was estimated after the year's business was concluded at 29,192 contos ($5,254,560). The appropriations, original and supplementary, for the year were 32,503 contos ($5,850,540).

For 1895, the appropriations were 38,431 contos ($6,917,580) and the expenses given in the management's report were 28,012 contos ($5,042,160). It is evident, therefore, that items which must be met by Congress are omitted from the report. The revenue reported by the management for that year was 27,945 contos ($5,030,100).

The amount paid in salaries for 1894 was reported as 16,253 contos ($2,925,540), and that in 1895 as 19,041 contos ($3,427,380), the increase resulting from the advance in salaries provided for by the law of December 26, 1894.

For the current year, little information is available. The amount already appropriated has been $5,341,400, and taking the estimate for the next year as the maximum receipts for the current year, the income did not exceed $4,950,000. Expenses which could not be met with the appropriations already made will, according to the precedents of former years, be met by a deficiency appropriation to be made by the next Congress.

As will be seen from the above, the manner in which the Central and the other Government lines are handled in connection with the rest of the national administration and accounting makes it difficult to be certain that the expenditures given in any one of the annual reports are all that have been incurred, or that their sum is the total which the road may ultimately call upon the Congress to meet. State railroads in Brazil are treated, so far as accounting goes, just as if they were purely administrative parts of the Government. The income expected from them is included in the ordinary receipts of the budget, and the expenses they are allowed to incur are voted by Congress—in many cases down to the smallest details. There is therefore a certain lack of elasticity and discretionary power on the part of the management. It is probable, for example, in the opinion of those competent to judge, that employees for whom provision is made by Congress remain on the rolls when they might be changed or relieved without injury to the operation of the road, and also that it is sometimes found advisable to increase salaries deemed to be insufficient by indirect methods. It seems evident that the system in practice tends to obscure and confuse responsibility for efficient management, as well as to make it difficult for the public

to ascertain exactly the net results of the operation of the roads. The amount of the original appropriations made by Congress at the close of 1897 and the estimate of receipts show that it was expected that the operation of the Central would yield a small profit. The Congress just adjourned found it necessary to make additional appropriations amounting to $877,000, and, in fact, a complete reorganization of the Central budget was found necessary. The itemized appropriations previously made were repealed, and a lump sum was voted to cover deficiencies.

A correct general statement as to the financial results of the management of the Central is that for the last several years the expenses have exceeded the income by nearly $1,000,000 a year, and that the total expenses have been greater than those estimated in the annual reports made by the management to the industry department.

The Central is not only the greatest business enterprise in Brazil, but it is also a powerful political agency. Its officials and employees are usually considered to be supporters of the administration. The renting of this great property in order to convert what is an occasion for serious loss into a producer of an income has been the subject of much discussion. Congress has authorized the Executive on several occasions to lease it, and propositions have been received. During the administration of Dr. Prudente Moraes, he was obliged temporarily to retire from the Presidency on account of his health, leaving Dr. Manoel Victorino, the Vice-President, in power. One of the principal features of the programme to relieve the difficult financial situation of the Government which the latter announced and attempted to carry through during his incumbency was the disposal of the Central to foreign capitalists. The unexpectedly sudden recovery of the President and his resumption of his office interrupted the negotiations, and no move in that direction is known to have been taken since. It is the opinion of many that the dissatisfaction of the employees over such a change and the disorganization and rearrangement of political conditions incident thereto in the States of Rio and Minas would be a serious menace to public order, should it be consummated. In addition, there is undoubtedly a large body of Brazilian opinion which believes that an enterprise of such magnitude, and so interwoven with the political and industrial organization of the country, ought not to be placed in the hands of foreigners. There is a certain apprehension among a large number of Brazilians of the effects of the preponderating influence of foreign capital. Such apprehensions have, however, not proven justified in Pernambuco, Bahia, and Rio Grande do Sul, where the railroads are mostly owned by English companies, nor in São Paulo, where they are largely so owned.

Under what is known as the funding arrangement, consummated at the end of President Moraes's administration, with the consent of the incoming President—Dr. Campos Salles—the revenue of the Central is hypothecated to the Rothschilds to secure the payment of the bonds in which, by that arrangement, the interest on the foreign-held debt and the guaranties on the railroads are now being paid. But the revenues of the Rio custom-house and, in order of their importance, those of the other ports are prior security. The Central may not be touched until they are exhausted, and, since the amount of the loan can not exceed $50,000,000, it is apparent that the Central will never be reached under the arrangement as it now exists. In case, however, that Brazil does not resume payments in 1901—the term of the funding arrangement—and it becomes advisable to renew it, there would seem to be a possibility that the Government and the London capitalists may both find it preferable to reverse the order of the security, and to turn over the Central rather than the customs. But, unless the present earnest effort of the Government to restore financial equilibrium should fail and it should become necessary for Brazil to make a specific provision to meet her deferred obligations, the question can not arise in this form.

The Minas and Rio is a connecting line, 170 kilometers (106 miles) long, built and owned by a guaranteed English company. It leaves the Central at Cruzeiro and extends into one of the finest coffee sections of Brazil—southwestern Minas. It was opened in 1884 and has paid good dividends, usually 7 per cent, although this year it paid but 6 per cent, owing to the fact that the Brazilian Government stopped the payment of the guaranty in cash and paid instead in bonds, upon which the company only realized 76 per cent. In 1897, its net surplus over operating expenses was $47,000. A great advantage which this line enjoys is that it is at present the outlet over which the Muzambinho and the principal division of the Sapucahy Railroad reach the Central and the port of Rio.

The Banalense, Rezende, Valenciana, Rio das Flores, Vassourense, and Bello Horizonte are all short lines leading off from the Central. All of them are operated at a loss, and, with the exception of the last, which is owned by the State of Minas, they are the property of Brazilian companies.

The Rio d'Ouro Railroad is the property of the Government. It runs from the city of Rio in a northwesterly direction and was built to assist in supplying the city with water from the range of mountains there. Its expenses are six times its income, and it is likely to be a continuous drain upon the treasury, in the opinion of successive ministers, unless the market garden industry along its line develops so as to give it a remunerative traffic.

The Corcovado is a cog railway running to the top of the mountain of the same name which rises in the midst of the city of Rio. It has, of course, no freight business except that connected with the resorts on the mountain.

The Minas Western, or "Oeste de Minas," is one of the longest systems in Brazil. It starts from the station of Sitio, on the main or Minas line of the Central, 363 kilometers (226 miles) from Rio, and runs west through the old mining center São João d'El Rei, 311 kilometers (193 miles), and then runs north 400 kilometers (249 miles). The width of the gauge is but 30 inches. The first part of the line, built about 1880, received a subvention of $5,000 a kilometer from the province of Minas Geraes. Subsequently, this was substituted by a 7 per cent guaranty. At present, its gold bonds bearing 5 per cent are guaranteed, both principal and interest, by the Federal Government. The issue amounts to $18,000,000. This road has now under construction a line which is to run from Barra Mansa, on the São Paulo branch of the Central, to Catalão, in the interior State of Goyaz, which as yet is entirely without railroads. This new line will have a total length of 1,440 kilometers (895 miles) and will run in a northwesterly direction, connecting with the actual east and west line of the Western Minas at its western terminus—Ribeirao Vermelho. At the beginning of 1898, 81 kilometers (50 miles) had been completed and were in operation north and south from this point, and 41 kilometers (25 miles) had been built north from Barra Mansa. For the last few years, this company has been in financial difficulties, and propositions for reorganization are now being considered. The bonds are mostly held by German capitalists and are quoted at 61 per cent of par, on the strength of the Government's guaranty.

The Melhoramentos Railroad is owned by a Brazilian company. It extends from a northern suburb of Rio 165 kilometers (103 miles) in a northerly direction into the Parahiba Valley. For 60 kilometers (37 miles) it parallels the Central, and then turns off to the right.

The Muzambinho is an extension of the Minas and Rio in the coffee district of southwestern Minas. It is composed of two unconnected divisions, one of which is guaranteed by the Federal Government. Expenses exceed income by about 65 per cent. The receipts are small, amounting this year to only about $160 per mile.

The Theresopolis is a short line from Rio Harbor to the foot of the mountain near the health resort of that name. It has a 6 per cent guaranty, and the company owns large tracts in and near Theresopolis. The road is at present only operated enough to hold its franchise. It can never be profitable until it has been built up

the mountain to its intended terminus, which would then become a formidable rival to Petropolis, as it has a much superior climate.

Like the Muzambinho, the Sapucahy is in southwestern Minas. The original plan contemplates an extensive system with an independent terminus at Rio, approximately following the Central as far as Barra do Pirahy, where the latter crosses the Parahiba River, then leaving the Government road to the south, going west through the southern part of Minas to the border of the State of São Paulo, where it connects with the Mogyana at a point 307 kilometers (191 miles) north of Santos. The western portion of the line has been finished and runs from Baependy to the junction with the Mogyana at the frontier, crossing the Minas and Rio, which is its present principal outlet to the seaboard at Soledade. The Mogyana also gives it a connection with the seaboard at Santos. Upon the eastern portion a considerable section has been built, extending from Barra do Pirahy to Livramento, which is the eastern terminus of the western division. At the Rio end, little has been done beyond the acquiring of some rights of way and the grading of a few kilometers of roadbed. The Barra-Livramento section will not be of much use until it is pushed on to a connection with the western portion. The service on it is very meager. During the prosperous years of the last of the Empire and the first years of the Republic, the Sapucahy did a considerable business, and its securities were valuable. Of late years it has been running behind badly, and it is now in process of liquidation by judicial sale.

The great coffee State of São Paulo is well supplied with railroads, and they are the most prosperous and profitable in the Republic. They are all privately owned, and the governmental guaranties are given to only a small portion of the mileage under operation.

The key to the whole system and the most valuable railway property in Brazil is the São Paulo Railway, running from Santos to Jundiahy, through the city of São Paulo. The traffic of all the other São Paulo railroads reaches the seaboard over this line. It pays an annual dividend of over 10 per cent, and its rates on coffee, the principal commodity, are lower than those of any other railroad in Brazil. It was opened for traffic in 1868, having been built by an English company under a guaranty, which was soon found to be needless and which has long since ceased to be availed of. The method employed in climbing the coast serra to the plateau of São Paulo is curious. The ascent of 2,600 feet is made within 8 kilometers (4.9 miles), and is divided into four planes of 2 kilometers (1.2 miles) each, up which the trains are pulled and let down by cables operated by stationary engines. The company is now engaged

in duplicating its track, in order better to accommodate the large traffic. The line is broad gauge and double track and cost $150,000 per mile, including terminals. The gross income approximates $40,000 a mile for the line now in operation.

The second railroad built in São Paulo was the Paulista. In its inception it was a Brazilian enterprise, backed by the coffee planters of the State of São Paulo. The propaganda in the State for its building began shortly after the finishing of the English road to Jundiahy, during the closing years of the Paraguayan war, and was intimately connected with the formation of a party in that State, the principal programme of which was the development of agricultural and commercial industry along modern lines. In this movement were many of those São Paulo statesmen who have since been prominent in what grew to be the Republican party of Brazil, and who have furnished the two civilian Presidents of the Republic. The enterprise early became profitable and was taken over by an English company. The main line was begun in 1872 and ran to the city of Campinas from the terminus of the São Paulo. It was broad gauge and has since been extended north to Descalvado. A few years later, the Rio Claro, a narrow-gauge line connecting with the original Paulista at the town of Rio Claro, was begun. In recent years, it has been incorporated with the Paulista. The Rio Claro covers the northwestern part of the settled section of the State, and, built without any guaranty and by Brazilian initiative, has made a handsome profit. In 1898, the gross income was more than twice the operating expenses, and the net income was 28 per cent of the cost of the line, estimated in gold. The consolidated system has nearly 1,000 kilometers (621 miles) of track. Its net income in 1898 was $750,000, and it paid a dividend of 7½ per cent.

The third great system is the Soracabana, which is about as extensive, but all narrow gauge and in a territory not as well developed. It covers the southern part of the State, running west from the capital. Its southwestern branch is being pushed on down toward the Parana frontier, the intention being to connect with the São Paulo and Rio Grande. The completion of the latter will give a continuous line of railway from the Rio, Minas, and São Paulo systems along the fertile plateau of Parana and Santa Catharina into the extreme southern State of the Republic—Rio Grande do Sul. The industrial, strategical, and political results can not fail to be of the first importance. The extensions now being built by the Soracabana are guaranteed, but are operated at a small profit. There is in contemplation the building of an unguaranteed line to the port of Santos. The São Paulo Railway, which has now a monopoly of transportation by land to this port, claims that this would be a breach of the terms of the concession originally granted to it. It is asserted that the

concession gave an exclusive privilege for a zone of 66 kilometers (41 miles).

The last great system of the State of São Paulo is the Mogyana. This extends from the city of Campinas, where it connects with the Paulista, along the eastern border of the State to its northern boundary at Jaguará, on the Rio Grande—a principal tributary of the Parana—and there crosses into western Minas, into which it penetrates at present a distance of 283 kilometers (176 miles). The first section of the Mogyana was opened in 1873, and in 1879 the line was extended as far as Casa Branca. In 1883 it was extended to Ribeirao Preto, the center of one of the very best coffee-producing sections of Brazil. The extension to the Rio Grande and into Minas has since been added. At the present time, only 95 kilometers (59 miles) remain to be built in order to reach the town of Catalao, in the State of Goyaz. The intention is ultimately to go to Cuyabá, the capital of Matto Grosso, which is now accessible only by way of Buenos Ayres and the Parana and Paraguay rivers. The political advisability of this line is manifest. It will connect fertile regions of the Brazilian Republic now only accessible from each other by long detours through foreign countries. For this extension, the Government has granted a 6 per cent guaranty upon 30 contos per kilometer. This amounts to $1,000 gold per kilometer per year. The road as a whole is profitable, but on the guaranteed portions, which are in a remote and as yet undeveloped country, there is a deficit.

In Parana, there is one important and prosperous line. It was built by a French company; but its shares have been largely bought up in Switzerland and Belgium, and the management is now Swiss. The original line runs from the port of Paranagua to the capital of the State—Curityba. It was opened in 1883. This line surmounts the serra without the aid of cogs or cables, and the engineering is most excellent. An extension was built during 1891–1894 to the fertile interior. This joins at the station of Ponte Grossa with the São Paulo and Rio Grande line, recently opened. The Parana main line and extension are guaranteed, but have paid an excess of receipts over expenses. In 1897, the net income amounted to nearly 6 per cent of the capital invested, estimating both on a paper basis. The Government therefore had to pay only a small proportion of the guaranty. But this road, like all the other guaranteed roads, is subject to the rigid fiscalization and immediate control of the Government. An officer called a "fiscal" watches the operations and accounting of the company in the interests of the Government. By its control of rates and in other ways, the Government is enabled to enforce its views as to proper management upon the guaranteed companies. Sometimes, these views do not correspond with those of

the owners of the line or of the industries depending upon it for transportation. It has happened that roads wishing to build up an industry by conceding low rates have been prevented or hampered by the action of the "fiscal," taken with the purpose of increasing the immediate revenue of such lines so as to decrease the amount of guaranty which would have to be paid by the Government out of the current budget.

The transport of goods on the Parana and on the other lines which mount to the fertile central plateau, up the steep mountain chain which borders the coast from the northern part of Rio Grande do Sul as far north as the southern part of Bahia, is necessarily expensive. There is also a limit to the amount of traffic which can be carried over a narrow gauge up the steep grade required. At times, this limit has been nearly reached in the case of the Parana, and this fact constitutes a serious obstacle to the complete and early development of the fertile "hinterland."

The Dona Thereza Christina was built about the same time as the Parana, and by an English company. It is of small importance, and its expenses are reported to be three times its income; consequently, most of the Government guaranty is used to meet the deficit. This is the only railroad in the State of Santa Catharina. Its sea terminus is the unimportant port of Laguna. Florianopolis, the capital, and Blumenau, the seat of an old and prosperous German colony, have no connections. A concession has been granted for a line running from the latter place back to Porto da Uniao. This town promises to be the Chicago of southern Brazil. It is at the head of navigation on the Iguassu River, a large navigable tributary of the Parana, and is the junction point of all the railway systems projected for southern Brazil, Paraguay, and northeastern Argentina. The São Paulo and Rio Grande, the trunk line between middle and southern Brazil, is already completed to within a few miles of it. A line is projected to the Paraguayan border and another to the Uruguay River, which will connect it with the railway system of that Republic.

The São Paulo and Rio Grande is the latest line to be put in operation in Brazil. In December, 1899, traffic was inaugurated on a section of 229 kilometers (142 miles) running north and south from the western terminus of the Parana Railroad. The line is to run from the southwestern terminus of the Soracabana in São Paulo in a southwesterly direction, through the very fertile and promising region of the plateau of Parana and Santa Catharina, to the Uruguay River, which is the northern boundary of the State of Rio Grande do Sul. At this point, it will connect with the Cruz Alta branch of the Uruguayana, and through it have access to the systems of Rio Grande.

This last State is already comparatively well supplied with railroads, and building is actively going on. The soil of the State is fertile, and the climate is suitable for the cultivation of all the products of the temperate zone, as well as healthful and invigorating for the northern races of men. The cattle industry is the chief one at present, but the cultivation of small grains and general farming offer opportunities.

Before the beginning of the revolutions in the thirties, the culture of wheat was extensively followed. Unhappily, there have been frequent political disturbances since, the last being in 1893 and 1894. Numerous German colonies have been established and are flourishing.

The oldest railroad in the State is the Porto Alegre and Nova Hamburgo, the latter, as its name indicates, being a German colony. It is 43 kilometers (27 miles) long, and its gross income during 1898 was $7,000 per mile. There was a net income on the whole line of $10,000, but this did not suffice to pay an interest equal to the governmental guaranty given to the English owners.

The next railroad put into operation was the Uruguayana. This starts from Taquary, a river port 80 kilometers (50 miles) from Porto Alegre, and extends west across the State. Its construction was undertaken by the Government for reasons primarily political and strategical, the intention being to give Brazil access through her own territory to the River Uruguay, in the lower part of its course. The advantages to the Government of such a road, in case of any difficulties with the countries on the River Plata, are manifest. It was begun in 1879, but in 1887 only 262 kilometers (163 miles) had been built. In the early years of the republican régime more than 100 kilometers (62 miles) were added, and it now reaches more than half way across to the Uruguay. Up to 1892, the operating expenses constantly exceeded the income; but since that time a net income over operating expenses has been reported, being the only instance of a Government road in Brazil which paid its way during that period. Two years ago it was leased by the Government to a Belgian syndicate, which has since operated it. In 1898, a net profit of $55,000 was realized. The extension west to the Uruguay is being built, and 121 additional kilometers (75 miles) will soon be open. A branch connecting it by a north and south line with the Rio Grande Southern is also under construction. Two sections of this branch have been built and are in operation—one from Cacequy, the actual western terminus of the main line, southwest, and the other from Bagé, the terminus of the Rio Grande Southern, northwest. Only a short distance remains to be built to make this connection.

Branching off from the Uruguayana at the station of Santa Maria, 341 kilometers (212 miles) from Porto Alegre, is the Cruz Alta, a

line now under construction by the Compagnie des Chemins de Fer Sud Ouest Bresiliens. This is a company under Belgian control and intimately connected with the company which has leased and is operating the Uruguayana. The line is to run north to the upper waters of the River Uruguay, there to connect with the São Paulo and Rio Grande. Six hundred and seventy-four kilometers (419 miles) are completed or under construction. A year ago, trains were being regularly run on 355 kilometers (221 miles). At the end of 1897, 300 kilometers (186 miles) were under traffic and 6,281 contos (at present exchange equal to about $1,000,000) had been spent on construction of the line north from Cruz Alta. As this extension was 194 kilometers (121 miles) long, it will be seen that the cost of construction had not been far from the 30 contos ($5,400) upon which interest is guaranteed by the Government. This is the only line in Rio Grande do Sul which encounters engineering difficulties on account of mountains. Except in its northern portion, the State is quite level, and the Cruz Alta is the only line which penetrates the district where begins the great mountain system of eastern Brazil. The business amounts to less than $400 a mile, but the company reports the operating expenses as less.

The Rio Grande Southern was opened in 1884. Its line runs from the city of Rio Grande do Sul, the principal port of the State, through the important city of Pelotas, to the interior in the extreme southern part of the State. It was built and is operated by an English company, under a guaranty. For the last few years, it has been paying a small surplus over operating expenses. This year the receipts will be something over $1,500 a mile.

The Great Southern is a road isolated from the rest of the Brazilian systems, but connected with those of the Uruguayan Republic at Quirahim, in the extreme southwest corner of Brazil. It runs up the Uruguay River through the city of Uruguayana, the Brazilian port of entry for that region and the center of a large trade in cattle and matte. In order to secure the building of the 176 kilometers (110 miles) of line, the Government guarantees 6 per cent on a capital of $5,500,000, invested by the English company which still operates it. This interest guaranty has been the sole source of dividends, the expenses being about three times the income.

GENERAL REMARKS.

From the foregoing facts and the tables hereafter given, in addition to the conclusions adverted to in the case of particular railways, the following inferences may be drawn:

That governmentally managed railways are the least profitable

in Brazil, so far as receipts and incomes determine the profitableness of railways.

That railways built with a Government guaranty are not likely to have their expenses much exceed their income.

That the guaranteeing by the Government and consequent control and fiscalization has resulted in seriously hampering various managements in their attempts to build up new industries.

That the number of passengers is small in proportion to the length of lines and size of the population, as compared with the number making use of railroads for travel in European and North American countries.

That the proportion of second-class passengers is much larger than in the United States.

That passenger fares are low.

That in the building of railroads the initiative and aid of the Government has been depended upon more than of individuals. Except in the State of São Paulo, they are virtually all Government aided. The law and custom is that a railroad may not be built without a specific concession from the Government, by which the route is defined and provisions made for very complete Government control. This control is not only exercised by general regulations, but officials are appointed who have in practice a supervision over, and a certain control of, the affairs of a particular road. Fines are imposed upon the managements, and controversies between them and the administrative departments of the Government are frequent.

According to the statistics prepared by Fernandes Pinheiro, there were in Brazil, in 1887, 8,486 kilometers (5,273 miles) in operation, which had cost $294,000,000. The receipts for that year were $22,716,000, and expenditures for operation $15,613,000, leaving a net surplus of $7,103,000, or 2.4 per cent. The total number of passengers was 360,000,000, and the metric tons of freight transported were 2,100,000.

The 14,801 kilometers (9,197 miles) now in operation in the country have cost approximately $571,000,000. The gross income was $23,550,000 and the operating expenses $20,800,000, leaving a net income of $2,750,000, or about one-half of 1 per cent on the amount invested.

ENGINEERING DIFFICULTIES.

Since the eastern and inhabited part of Brazil presents as a rule a considerable chain of mountains rising abruptly a short distance from the coast, with an interior plateau seamed with deep and tortuous river valleys, the building and operation of railways in this

country offers peculiar difficulties. The serra must be surmounted either by steep grades with many tunnels and a crooked line, as is the case on the Central, the Parana, the Cantagallo branch of the Leopoldina, and others, or by specially adapted cog or cable systems, as on the Gran Para branch of the Leopoldina and on the São Paulo. When the interior plateau is reached, the curves required are often of small radius and the gradients excessive. For these reasons, narrow-gauge lines are found more practicable than broad-gauge ones. Except the Central, the São Paulo, and the Paulista, the only broad-gauge lines in Brazil are the two short roads in Pernambuco and Bahia, built with Government aid when railways were first inaugurated here. During the last twenty years, practically all the railways built in Brazil have been narrow gauge. Many lines have curves with radii of 80 meters (87.2 yards), and there are some as small as 40 meters (43.6 yards). Gradients of 2½ per cent are common; there are several of 3½ per cent, and in one instance as steep a rise as 8.3 per cent is employed without the aid of cogs or cables. This is on the Cantagallo branch of the Leopoldina, in the State of Rio de Janeiro.

The maximum grades of the principal roads are as follows: Baturité, 1.8; Natal and Nova Cruz, 2.5; Conde d'Eu, 2.17; Great Western, 2; Pernambuco Southern, 1.8; Alagoas Central, 2; Paulo Affonso, 3; Bahia Central, 3.3; Nazareth, 2.9; Carangola, 2.5; Macahé Campos (Leopoldina), 0.5; Central of Brazil, 2; Minas and Rio, 3; Theresopolis, 6; West of Minas, 2; São Paulo, 2; Paulista, 2; Soracabana, 2.8; Mogyana, 3; Parana, 3.3; Thereza Christina, 2; Uruguayana, 1.8; Southern Brazilian, 3; Great Southern, 2.

Rails, rolling stock, iron and steel structural material, and coal are all imported. Telegraph poles are largely of iron as better resisting the weather. Sleepers are usually of wood obtained in the country. Sometimes iron sleepers are used. The Leopoldina is at present substituting many iron sleepers with native wooden ones. The wages paid men employed in construction and on the right of way are low as compared with the American standard. On the coast divisions of the Leopoldina, from 1 to 2 milreis are paid section men per day. This is equal at present exchange to 21 to 28 cents a day. On interior lines, the wages are still lower. On those in Minas they range from 14 to 21 cents a day. In the year 1898 the São Paulo Railway Company, in building the duplicate line up the serra, removed 582,000 cubic meters of earth at a cost of $114,000. The cost of the projected Central Mineira line, which runs from Bello Horizonte across the high Minas plateau to a connection with the West of Minas, and which is to traverse a country offering about the average difficulties encountered in building railways in central Brazil, has been estimated as follows:

Description.	Amount.	
	Contos.	
Surveys and plans	412	$61,800
Administration during construction	139	20,850
Earthworks	7,542	1,131,300
Masonry	1,881	282,150
Superstructure of bridges	138	20,700
Permanent way	5,032	754,800
Rolling stock	1,550	232,500
Buildings	271	40,650
Total	16,959	2,543,850

A conto in this estimate is calculated as equal to $150.

The length of the line is 199 kilometers (124 miles).

An examination of the tables hereafter given will show that the number of employees required to operate Brazilian railroads, especially those under Government management, is very large. In this connection, the following figures taken from the official reports for the year 1897 as to the two principal railways of Brazil—the São Paulo, managed by an English company, and the Central, managed by the Government—are interesting:

Description.	Central.		São Paulo.	
		Dollars.		*Dollars.*
Mileage ..... miles...	772	.....	*87	.....
Total employees ..... number...	13,176	.....	1,175	.....
Employees per mile ..... do.....	13½	.....	17	.....
Total expenditure reported ..... milreis...	29,193,455	4,378,868	10,312,038	1,646,806
Expenditure for employees ..... do.....	21,478,375	3,221,756	3,668,734	550,310
Revenue per employee ..... do.....	2,306	346	18,414	2,762
Average annual payment to employee ..... do.....	1,630	245	3,548	532
Employees in general administration ..... number...	1,318	.....	75	.....
Expenditures for general administration ... milreis...	3,221,779	483,266	324,326	48,649
Employees in traffic department ..... number...	3,953	.....	350	.....
Salaries paid in traffic department ..... milreis...	5,369,632	805,445	1,800,000	270,000
Employees in locomotive department ..... number...	5,270	.....	450	.....
Salaries paid in locomotive department ..... milreis...	8,591,412	1,288,712	720,332	108,050
Mileage of passenger trains ..... miles...	1,943,337	.....	294,040	.....
Mileage of freight trains ..... do.....	1,960,455	.....	896,422	.....
Employees on permanent way ..... number...	2,635	.....	300	.....
Wages paid to permanent-way employees .. milreis...	4,295,706	644,356	824,076	123,611
Material not fuel in locomotive department ... do.....	2,034,006	305,101	4,492,762	673,914
Coal consumed ..... metric tons...	157,089	.....	36,622	.....

*Double track.

The monetary unit used in the above table—the milreis—was equal to 15 cents at the rate prevailing that year.

The difference in the number of employees as compared with the business done is curious, and the discrepancy is especially noticeable in the administrative department and the central offices. The Central is under the immediate control and direction of the Minister of Public Works, who is a member of the cabinet of the President.

As will be observed, the São Paulo has 21 per cent the trackage; does 71 per cent the business; incurs 35 per cent the total expenditure of the Central. Its receipts per mile of track are 312 per cent, and its expenditures 158 per cent those of the latter. The São Paulo has 40 per cent as many employees per mile of track, and the ratio of revenue earned to each employee is eight times as great as on the Government road. On the São Paulo, the expense of central administration is 1½ per cent of the income, and on the Central it is 9 per cent. On the São Paulo, 75 men conduct the central administration for 173 miles of track, and on the Central 1,318 men for 772 miles, or 4.2 times as many for each mile.

PASSENGER RATES AND REGULATIONS.

It has been found impossible to obtain complete passenger statistics. In the published railroad statistical reports, the total number of passengers carried is usually given and the revenue derived from the passenger service, but per-passenger-per-kilometer statistics are given in only a few cases. On three Government roads they are given as follows: Paulo Affonso, 25 reis (0.4 cent); San Francisco, 28 reis (0.45 cent); Uruguayana, 51 reis (0.8 cent). On three individually managed roads they are given as follows: Nazareth, 27 reis (0.43 cent); Alagoas Central, 33 reis (0.5 cent); Carangola, 45 reis (0.72 cent). On the São Paulo, an approximate estimate is 26 reis (0.42 cent). These figures are for 1897, when the reis was worth one sixty-fourth of a cent. On the Central the rate upon which the fares are based is 70 reis (1.1 cents) per kilometer first class, and 50 reis (0.8 cent) second class. Formerly this basing rate was 100 reis (1.6 cents). This was equal to 2 cents a mile. Twenty per cent additional must be paid on all tickets on all railroads, whether State or privately owned, subventioned or not, as a tax to the Federal Government. This tax was increased from 10 per cent and made general in its application at the beginning of 1898. The first-class fare from Rio to Petropolis, a distance of 40 kilometers (25 miles), and over a line which, while it has the expensive climb of the serra, enjoys a regular and large suburban traffic, is a little over $1. Five-sixths of this goes to the road and one-sixth to the Government. The fare for the whole length of the West of Minas—602 kilometers (374 miles)—is $10. Thus the farthest inland point on any road in Brazil may be reached for $15, first class.

On Brazilian railroads no baggage is transported free, and a passenger is allowed to take with him into the coach only a small hand-bag. The consequent necessity of dispatching baggage is annoying and expensive. On the Central, the charge for 150 pounds of baggage is in general a little greater than a second-class fare and about

two-thirds a first-class fare. However, the payment is in proportion to the weight.

Number of passengers in 1898.

Road.	First class.	Second class.
Central (suburban)	2,443,691	7,921,304
Central (interior)	379,258	1,335,844
Central (suburban), 1897	4,366,057	8,139,868
Central (interior), 1897	542,812	1,706,457
São Paulo	332,038	935,366
Bahia and Alagoinhas	59,350	259,407
Paulo Affonso	2,059	6,713
San Francisco	17,552	31,229
Pernambuco Central	111,276	304,179
Maranhão	2,809	2,899
Natal and Nova Cruz	4,137	16,096
Conde d'Eu	26,622	68,503
Palmares	96,559	401,242
Great Western	40,129	259,452
Alagoas Central	32,190	77,591
Bahia Central	22,670	98,686
Nazareth, 65 guaranteed kilometers (40 miles)	10,137	16,847
Corcovado, all first class	34,766	.....
Leopoldina proper, 381 kilometers (236 miles)	110,279	157,312
Sumidouro branch Leopoldina, 93 kilometers (58 miles)	24,214	28,099
Carangola branch Leopoldina, 223 kilometers (139 miles)	41,297	78,014
Rezende	4,255	12,214
Berra branch West of Minas, 187 kilometers (116 miles)	2,415	15,400
Rio Claro branch Paulista, 470 kilometers (292 miles)	145,018	387,044
Minas and Rio	13,392	69,648
Rio Grande Southern	94,305	83,855
Uruguayana, 10½ months, total both classes	50,832	
Muzambinho, both classes	1,277,087	
Mogyana, both classes	47,800	
Parana, both classes	103,844	
Dona Thereza Christina, both classes	14,079	
Cruz Alta, both classes	16,722	

It will be noted that the proportion of first to second class passengers is largest in the extreme southern State of Rio Grande, and that the proportion generally increases as one comes from north to south. This corresponds with the condition of greater average prosperity in the south.

The great falling off in the traffic on the Central from 1897 to 1898 is probably to be explained by the increasing severity of the industrial crisis in the coffee regions of Brazil.

FREIGHT RATES.

There is the same difficulty in obtaining freight statistics. Per-ton-per-kilometer figures are virtually entirely wanting. It may be said in general that freight rates are higher in Brazil than in the United States and, as a rule, are higher on the Government than on the private lines; but to this there are many exceptions. The Central charges $2.86 per hundred on first-class freight to Lafayette, the end of the broad gauge on the main line, 287 miles from Rio.

On the Leopoldina the rate to Santa Luzia, 266 miles, is $1.76 per hundred. The São Paulo charges 11 cents a barrel on flour to the city of São Paulo from Santos, a distance of 47 miles. The Leopoldina rate on coal to Portella, 148 miles, is $2.56 the long ton; on the Central it costs $4.37 to Serraria, 132 miles. The rates for coffee on the various railroads in São Paulo in the early part of this year were as follows (the rate is per ton per kilometer; there are 16⅔ bags in a ton, and the value of a milreis, or 1,000 reis, during that period was about 16 cents):

Road.	Rate.	
	Reis.	*Cents.*
São Paulo Railway	206	3.2
Paulista main line	288	4.6
Rio Claro branch Paulista	340	5.4
Mogyana main line	288	4.6
Mogyana extension	412	6.5
Soracabana	288	4.6
Bragantina	350	5.5
Campineiro	630	10
Itatibense	1,080	17

The rate on the Central to the main coffee districts was 312 reis (4.9 cents) per ton per kilometer. The Leopoldina rates are higher on coffee, but negotiations have been about completed to put a lower tariff into effect on this article.

On the Central, the classification which is in force is roughly as follows:

Baggage and freight sent by special order are the highest class. The base rate for this class of freight is 900 reis (14 cents) per kilometer per ton.

Ordinary first class includes high-priced furniture, art objects, porcelains, looking-glasses, crystal, inflammable objects, explosives, drugs, poisons, and articles needing care. The rate on these is 600 reis (9.6 cents).

Second class is ordinary furniture, crockery, leather, preparations of tobacco, wine, liqueurs, alcohol, and generally imported goods. The rate is 400 reis (6.4 cents).

Third class is coffee in grain, tobacco, refined sugar, and generally articles of export. The rate is 280 reis (4.4 cents).

Fourth class is salted hides and unshelled coffee, with a rate of 200 reis (3.2 cents).

Fifth class is wood, coal, cement; 140 reis (2.2 cents).

Sixth class, food products of primary necessity, salt, salted meats, etc.; 75 reis (1.2 cents).

Seventh class, fresh meats, minor agricultural products, lime and building materials; 40 reis (0.6 cent).

To classes 1, 2, and 3 the sliding scale is applicable, and at the rates of exchange lately prevailing 15 or 20 per cent must be added.

STOCK AND BOND QUOTATIONS.

The securities of Brazilian railway companies are dealt in on the exchanges of London, Rio, Paris, and São Paulo, and to a lesser extent at Brussels and Berlin. The latest quotations obtainable are as follows:

Stocks.

Road.	Per cent.	Road.	Per cent.
Conde d'Eu	7	Rio Clara branch Paulista	23
Natal and Nova Cruz	5	Sapucahy	0¼
Great Western	6½	Valenciana	7½
Pernambuco and Palmares	61	Soracabana	17
Alagoas Central	6½	Soracabana (second issue)	25
Bahia and Alagoinhas	9½	West of Minas	5¾
Bahia and Alagoinhas Timbo branch	5¼	Dona Thereza Christina	3¾
Bahia Central	43	Porto Alegre and Nova Hamburgo	5½
Leopoldina	3⅞	Southern Brazilian	8
Theresopolis	0½	Great Southern	1¾
Minas and Rio	11½	San Jeronymo	24
São Paulo	30½		

Bonds and debentures.

Road.	Per cent.	Road.	Per cent.
Conde d'Eu debentures, 5½ per cent.	94	São Paulo debenture stock, 5½ per cent	139
Natal and Nova Cruz bonds	90	São Paulo debenture stock, 5 per cent	127
Great Western debenture stock	97	São Paulo debenture stock, 4 per cent	105
Great Western Extension debenture stock	88	Rio Claro branch Paulista debenture stock, 5 per cent	130
Alagoas Central debenture stock, 6 per cent	97	Soracabana debentures, different issues, 6 per cent.	57 to 67½
Alagoas Central debenture stock, 5 per cent	57	Ituana branch of Soracabana debentures, 6 per cent	76
Bahia Central limited 6 per cent debentures	98	Bragantina, 8 per cent	12½
Bahia Central debenture stock, 6 per cent	83	Mogyana debenture bonds, 5 per cent	103
Bahia Central debenture stock, 5 per cent	61	Dona Thereza Christina, 5½ per cent.	83
Leopoldina, 4 per cent debenture stock	84	Porto Allegre and Nova Hamburgo mortgage debenture stock, 6 per cent	74
Leopoldina, 6½ per cent paper	51¼	Southern Brazilian debenture stock, 6 per cent	80
Leopoldina, 4 per cent paper	8	Great Southern debentures, one issue, 6 per cent	83
Araruama branch of Leopoldina, 8 per cent	20	Great Southern debentures, another issue, 6 per cent	51
Carangola branch of Leopoldina, 5½ per cent	64	Great Southern debenture stock, permanent, 6 per cent	46
Rio das Flores, second issue, 4 per cent.	17½		
Minas and Rio debentures, 6 per cent.	103		
Santa Isabel do Rio Preto gold, 6 per cent	5		
Santa Isabel do Rio Preto paper, 7 per cent	25		

FREIGHT TONNAGE.

The following is reported as the quantity of freight transported by the various lines for which statistics are available during the year 1898:

Line.	Quantity.	Line.	Quantity.
	Metric tons.		*Metric tons.*
Maranhão	9,956	Bahia Central	56,342
Sobral	16,788	Nazareth (65 kilometers)	23,619
Baturité	36,302	Leopoldina proper (381 kilometers)	54,522
Natal and Nova Cruz	17,032	Sumidouro branch Leopoldina (93 kilometers)	4,904
Conde d'Eu	55,690	Central of Brazil	744,381
Great Western	114,538	Minas and Rio	70,724
Pernambuco Southern	70,376	São Paulo	1,331,222
Palmares	171,671	Rio Claro branch Paulista (470 kilometers)	180,574
Pernambuco Central	29,045	Uruguayana	40,496
Alagoas Central	94,737	Parana	91,111
Paulo Affonso	6,054	Mogyana	398,866
Bahia, Alagoinhas, and Timbo	104,711		
San Francisco	95,068		

GENERAL STATISTICAL TABLES.

The following table gives the steam railways of Brazil in geographical order, beginning at the north. The second column gives the name of the company or authority operating it; the third, the State in which it is situated; the fourth and fifth, the dates of the concession and the beginning of operation; and the sixth, whether the operating expenditures exceed the gross income or not.

Name of railway.	By whom operated.	State where situated.	Date of concession.	Date of opening.	Whether profitable or not.
Bragança	State of Para	Para	1879	1885	Unprofitable.
Maranhão	Companhia General de Melhoramentos no Maranhão.	Maranhão		1894	Do.
Sobral	Brazilian lessees	Ceara	1878	1881	Do.
Baturité	do	do	1870	1875	Profitable.
Natal and Nova Cruz.	Natal and Nova Cruz Railway Company.	Rio Grande do Norte.	1873		Unprofitable.
Conde d'Eu	Conde d'Eu Railway Company.	Parahiba	1873		Do.
Itambé		Pernambuco			
Great Western	Great Western of Brazil Railway Company, Limited.	do	1870		Profitable.
Palmares	Recife and San Francisco Railway Company.	do	1852	1858	Do.
Pernambuco Southern.	Government	do	1876	1883	Unprofitable.
Pernambuco Central.	Brazilian lessees	do	1878	1881	Do.
Ribeirao Bonito	Local company	do			
Suburban lines	Local companies	do	1868	1870	Profitable.

Name of railway.	By whom operated.	State where situated.	Date of concession.	Date of opening.	Whether profitable or not.
Alagoas Central.....	Companhia Estrada de Ferro Central Alagoana.	Alagoas	1879	.....	Profitable.
Paulo Affonso.....	Government	.....do	1878	1882	Unprofitable.
Bahia and Timbo...	Bahia and San Francisco Railway Company.	Bahia	1853	1863	Do.
San Francisco.....	Government	.....do	1876	1880	Do.
Santo Amaro.....	State of Bahia.....	.....do	1878	1883	Do.
Bahia Central.....	The Brazilian Central Bahia Railway.	.....do	1866	1875	Profitable.
Nazareth	Companhia Tram Road de Nazareth.	.....do	1871	1881	Do.
Caravellas	Brazilian company.....	Bahia and Minas Geraes.	1880	.....	Unprofitable.
Itaperim	Estrada de Ferro do Cachoeiro da Itaperim.	Espiritu Santo.....	1883	1887	Do.
Espirito Santo Southern.	State of Espiritu Santo.....	.....do	.....	1898	Do.
Campista.....	Brazilian company.....	Rio.....	1890	1893	Profitable.
Leopoldina...	The Leopoldina Railway Company, Limited.	Rio and Minas Geraes.	1852	1856	Do.
Central of Brazil...	Government	Rio, São Paulo, and Minas.	1855	1858	Unprofitable.
Minas and Rio.....	Minas and Rio Railway Company, Limited.	Rio and Minas.....	1875	1884	Profitable.
Banalense.....	A Brazilian individual.....	Rio and São Paulo.	1880	1885	Unprofitable.
Rezende.....	Brazilian company.....	.....do	1872	.....	Do.
Valenciana.....	Companhia Uniao Valenciana.	Rio.....	1876	.....	Profitable.
Rio das Flores.....	Brazilian company.....	.....do	1874	.....	Unprofitable.
Vassourense.....	.....do.....	.....do	.....	.....	Do.
Bello Horizonte.....	State of Minas Geraes.....	Minas	1896	1897	Do.
Rio d'Ouro.....	Government	Rio.....	1876	1877	Do.
Corcovado.....	Companhia Ferro Carril do Corcovado.	.....do	1882	1885	Do.
Oeste de Minas.....	Companhia Estrada de Ferro Oeste de Minas.	Minas	1873	1880	Do.
Melhoramentos.....	Empreza Industrial de Melhoramentos no Brazil.	Rio.....	....	....	Do.
Muzambinho	Companhia Estrada de Ferro de Muzambinho.	Minas	.....	.....	Do.
Rio Doce.....	Brazilian company.....	.....do	.....	.....	Do.
Maricá	.....do.....	Rio.....	.....	.....	Do.
Theresopolis	.....do.....	.....do	1880	.....	Do.
Sapucahy.....	Companhia Viacao Ferrea Sapucahy.	Minas and Rio.....	1876	.....	Do.
São Paulo.....	The São Paulo Railway Company.	São Paulo.....	1856	1866	Profitable.
Paulista	Companhia Paulista de Ferreas e Fluviaes.	.....do	1868	1872	Do.
Bragantina.....	.....	.....do	1873	1884	Do.
Mogyana.....	Mogyana Railway and Navigation Company.	São Paulo and Minas.	1872	1878	Do.
Itatibense	.....	São Paulo.....	.....	.....	Do.
Campineiro.....	....	.....do	.....	.....	Do.
Dumont	Dumont Coffee Estates Company.	.....do	1890	1892	Do.
São Paulo Coffee Estates.	.....	.....do	.....	.....	Do.
Cantareira	.....	.....do	.....	.....	Do.
Santos and São Vicente.	.....	.....do	.....	.....	Do.

Name of railway.	By whom operated.	State where situated.	Date of concession.	Date of opening.	Whether profitable or not.
São Paulo and Santo Amaro.	.....	São Paulo.....	1885	1887	Profitable.
Santos and Guarajá.	.....	.....do	.....	1895	Do.
Soracabana.....	União Soracabana e Ituana.	.....do	1870	1875	Do.
São Paulo and Rio Grande.	São Paulo and Rio Grande..	Parana	1889	1899	Unprofitable.
Parana	Compagnie Générale de Chemins Fer Bresiliens.	.....do	1872	1883	Profitable.
Dona Thereza Christina.	Dona Thereza Christina Railway Company.	Santa Catharina...	1874	1881	Unprofitable.
Uruguayana	Affonso Speé a Belgian.....	Rio Grande do Sul.	1873	1879	Profitable.
Nova Hamburgo...	Porto Alegre and Nova Hamburgo Railway Company.	.....do	1869	1874	Do.
Santa Maria.....	Compagnie des Chemins de Fer Sud Ouest Bresiliens.	.....do	.....	1894	Do.
San Jeronymo.....	Minas de San Jeronymo.....	.....do	.....	1897	Do.
Southern Brazilian.	Southern Brazilian Rio Grande do Sul Company.	.....do	1871	1885	Do.
Great Southern.....	The Brazil Great Southern Railway Company.	.....do	1881	.....	Unprofitable.

The following table gives the length, by whom built, the total cost of construction, the cost per kilometer, and the gauge of all the Brazilian railways:

Name of railroad.	Kilometers in operation.	By whom built.	Total cost of construction.		Cost per kilometer.	Gauge.
			*Contos.**		*Milreis.*	*Meters.*
Bragança	105	Province	8,524	$4,688,200	81	1
Maranhão.....	78	Guaranteed company..	2,165	1,190,750	28	1
Sobral.....	216	Government.....	10,816	5,948,800	50	1
Baturité.....	288	.....do	15,560	8,558,000	57	1
Natal and Nova Cruz...	121	Guaranteed company..	7,750	4,262,500	64	1
Conde d'Eu.....	141	.....do	7,189	3,953,950	51	1
Itambé	110	Company.....	4,500	2,475,000	41	1
Great Western.....	141	English company.....	5,389	2,963,950	38	1
Palmares.....	125	Guaranteed company..	16,665	9,165,750	133	1.6
Pernambuco Southern..	194	Government.....	21,354	11,744,700	110	1
Pernambuco Central...	180	.....do	18,500	10,175,000	103	1
Ribeirao Bonito.....	26	Guaranteed company..	835	459,250	32	1
Suburban lines.....	32	Companies	1,600	880,000	50	1
Alagoas Central.....	150	Guaranteed company..	6,413	3,527,150	43	1
Paulo Affonso.....	116	Government.....	8,500	4,675,000	73	1
Bahia and Timbo.....	206	Guaranteed company..	18,600	10,230,000	93	1.6 1
San Francisco.....	452	Government.....	21,000	11,550,000	47	1
Santo Amaro.....	36	Province	2,640	1,452,000	73	1
Bahia Central.....	317	Guaranteed company..	13,000	7,150,000	41	1.067
Nazareth	99	.....do	3,140	1,727,000	32	1
Caravellas	309	.....do	14,600	8,030,000	45	1
Itaperim.....	71	.....do	1,760	968,000	25	1

* Taking the conto at par ($550).

Name of railroad.	Kilometers in operation.	By whom built.	Total cost of construction.		Cost per kilometer.	Gauge.
			Contos.		*Milreis.*	*Meters.*
Espiritu Santo Southern.	21	State	1,050	$577,500	50	1
Campista	40	Company	1,100	605,000	27	1
Leopoldina	2,190	Guaranteed company..	110,000	60,500,000	50	1
Central of Brazil	1,222	Government	176,689	97,178,950	137	1.6 1
Minas and Rio	170	Guaranteed company..	15,495	8,522,250	91	1
Banalense	29	Company	1,991	1,095,050	68	1
Rezende	45	Guaranteed company..	5,778	3,177,900	128	1
Valenciana	64	Company	1,760	968,000	28	1
Rio das Flores	53	....do	6,000	3,300,000	113	1
Vassourense	8	....do	168	92,400	21	1
Bello Horizonte	15	State	2,743	1,508,650	183	1
Rio d'Ouro	87	Government	2,600	1,430,000	30	1
Corcovado	4	Company	610	335,500	152	1
Oeste de Minas	856	Guaranteed company..	62,000	34,100,000	72	0.76
Melhoramentos	165	Company	11,000	6,050,000	67	1
Muzambinho	238	Guaranteed company..	20,000	11,000,000	84	1
Rio Doce	27	....do	1,200	660,000	44	1
Marica	49	Company	1,068	587,400	22	1
Theresopolis	22	Guaranteed company..	2,200	1,210,000	100	1
Sapucahy	498	....do	42,000	23,100,000	84	1
São Paulo	139	Company	52,667	28,966,850	379	1.6
Paulista	843	....do	82,559	45,407,450	96	1.6 1
Bragantina	52	Guaranteed company..	2,320	1,276,000	43	1
Mogyana	1,119	Company	53,401	29,370,550	48	1
Itatibense	23	....do	500	275,000	22	1
Campineiro	44	....do	1,140	627,000	26	1
Dumont	65	....do	1,023	562,650	16	1
São Paulo Coffee Estates.	15	....do	450	247,500	30	1
Cantareira	13	....do	650	357,500	50	1
Santos and São Vicente.	16	....do	450	247,500	28	1
São Paulo and Santo Amaro.	21	....do	470	558,500	24	0.75
Santos and Guarajá	6	....do	300	165,000	50	1
Soracabana	950	....do	67,771	37,274,050	71	1
São Paulo and Rio Grande.	229	Guaranteed company..	13,200	7,260,000	57	1
Parana	438	....do	20,700	11,385,000	47	1
Dona Thereza Christina.	117	....do	5,609	3,084,950	48	1
Uruguayana	498	Government	29,608	16,284,400	59	1
Nova Hamburgo	43	Guaranteed company..	2,150	1,182,500	50	1
Santa Maria	355	....do	10,650	5,857,500	30	1
San Jeronymo	40	Company	1,200	660,600	30	1
Southern Brazilian	283	Guaranteed company..	14,952	8,223,600	53	1
Great Southern	176	....do	7,832	4,307,600	44	1
Total	14,801		1,045,089	574,798,950	71	

The cost above given is figured in contos of reis at par (1 gold conto=$550).

The following table gives the gross income and the operating expenses of all but twenty of the roads. They are divided into the

Government-managed roads, those depending on guaranties, and those without State help. The figures are for 1897 in most cases. The Baturité is given as it was under Government management and as it now is under a company. The amounts are given in milreis, worth that year about 16 cents.

Road.	Gross receipts.		Operating expenses.	
Government and State operated roads.	*Milreis.*		*Milreis.*	
Pernambuco Southern	647,485	$103,598	2,314,046	$370,247
San Francisco	818,408	130,945	1,386,498	221,840
Central of Brazil	32,900,000	5,264,000	45,601,000	7,313,425
Sobral	267,671	42,827	346,272	55,404
Baturité	855,566	136,891	1,033,078	165,292
Rio d'Ouro	149,115	23,858	908,241	144,199
Uruguayana	1,889,701	302,352	1,500,954	243,153
Paulo Affonso	49,984	7,997	136,452	21,732
Bragança	489,132	78,268	1,604,590	240,689
Santo Amaro	143,873	23,020	337,060	53,930
Pernambuco Central	894,705	143,153	1,020,310	163,250
Total	39,105,640	6,256,902	54,823,911	8,990,161
Receiving guaranty on whole line.				
Natal and Nova Cruz	147,543	23,607	291,905	46,705
Conde d'Eu	615,340	98,454	671,791	107,487
Palmares	1,795,885	287,352	1,679,046	268,674
Alagoas Central	664,210	106,274	575,186	92,030
Bahia and Timbo	1,302,167	208,347	1,676,496	268,239
Bahia Central	1,307,206	209,153	1,096,029	175,365
Nazareth	689,945	110,391	460,247	73,642
Minas and Rio	2,045,305	327,249	1,751,449	280,732
Muzambinho	140,265	22,442	255,832	40,933
Soracabana (146 kilometers)	457,780	73,245	391,687	62,670
Mogyana (283 kilometers)	468,806	74,999	954,702	152,752
Parana	1,726,934	276,309	1,036,324	165,812
Thereza	129,668	20,746	370,829	59,333
Santa Maria	494,781	79,165	444,328	71,092
Nova Hamburgo	398,384	63,741	370,300	59,245
Southern Brazilian	1,513,317	242,131	1,406,157	224,485
Great Southern	143,215	22,914	374,317	59,895
Bragantina	389,146	62,264	372,100	59,536
Total	14,429,897	2,308,783	14,178,725	2,268,596
Lines receiving no guaranty, or only on part of line.				
Baturité (1898 and 1899)	1,490,287	238,446	850,498	136,080
Great Western	1,369,061	219,056	1,135,540	181,686
Leopoldina	18,441,600	2,951,901	16,224,800	2,595,968
Valenciana	286,985	45,918	283,855	45,417
São Paulo	21,636,819	3,461,901	10,312,038	1,649,926
Paulista	24,342,000	3,894,720	10,583,660	1,693,386
Corcovado	43,606	6,977	64,858	10,337
Mogyana	15,806,094	2,528,975	10,221,996	1,635,519
Soracabana	8,848,129	1,415,701	4,751,438	760,231
Itatibense	199,597	31,396	135,169	21,627
Campineiro	306,649	49,064	302,790	48,444
São Paulo and Santo Amaro	112,247	17,960	109,275	17,840
Santos and São Vicente	232,835	37,254	160,510	25,682
Total	93,115,909	14,898,545	55,136,427	8,822,182

As to the West of Minas, Sapucahy, and eighteen other roads, statistics of receipts and expenses are not available. From the best sources of information obtainable it may be estimated that the former amounted to 8,233,341 and the latter to 10,558,366 milreis.

In the table given above, the figures are in most cases for 1897. Where they were not available for that year, those for 1898 are used, and in two cases those for 1896.

The total income of all Brazilian railways as thus given was 150,057,830 milreis ($24,009,253) and the operating expenses 132,501,244 milreis ($21,200,199), leaving a net income of 17,556,586 milreis ($2,809,054). This sum at the average rate for the year was equivalent to 5,016 contos gold, which is about one-half of 1 per cent on the 1,031,889 contos invested in the railways of Brazil.

The following table gives certain information as to the number of employees and the salaries paid them on the roads where the facts are reported:

Name.	Number of employees.	Employees per mile.	Earnings per employee.	Salaries paid for central administration.	Total salaries paid.	Gross income.
Government-managed roads.			*Milreis.*	*Milreis.*	*Milreis.*	*Milreis.*
Central of Brazil	13,176	17	2,306	3,221,779	21,478,529	30,386,375
Baturité	2,219	12.5	386	81,530	730,366	855,586
Rio d'Ouro	1,315	24.3	113	77,328	822,625	149,115
Uruguayana	4,500	14.5	439	144,173	1,201,135	1,977,561
Paulo Affonso	450	6.1	111	20,890	114,974	49,084
Sobral	1,080	8	248	38,860	242,703	267,671
Pernambuco Central	1,591	14.2	562	44,007	839,675	894,705
San Francisco	3,609	12.8	223	93,672	910,254	804,789
Guaranty on whole of line.						
Conde d'Eu	1,250	14.2	492	64,888	660,280	615,340
Palmares	1,620	27	1,109	34,385	1,541,750	1,795,885
Alagoas Central	1,126	12	590	86,152	455,791	664,210
Bahia and Timbo	1,363	10.6	954	111,821	925,410	1,300,167
Bahia Central	2,480	12.6	527	86,835	600,505	1,307,206
Nazareth	980	15.9	704	50,748	262,109	689,945
Minas and Rio	2,115	19.9	967	80,356	789,116	2,045,305
Muzambinho	596	12.7	235	32,834	168,378	140,265
Soracabana (146 kilometers)	542	5.9	844	99,907	278,387	457,780
Mogyana (283 kilometers)	2,891	16.4	162	40,272	506,361	468,806
Parana	1,180	17.1	1,164	53,839	491,613	1,726,934
Thereza	582	8.1	223	29,019	253,187	129,668
Santa Maria	1,162	6.2	426	40,786	303,299	494,781
Southern Brazilian	2,116	12	715	69,387	615,150	1,513,317
Great Southern	1,192	10.9	120	31,103	231,777	143,815
Not depending on guaranty.						
Great Western	1,560	17.7	878	118,602	1,027,388	1,368,958
Valenciana	198	4.9	1,449	21,773	191,724	268,985
Corcovado	56	23.3	779	5,512	52,902	43,606
Rio Claro (part of Paulista)	2,715	9.3	1,885	75,744	1,037,676	5,119,083
Mogyana				549,425		
São Paulo	1,175	13.6	18,414	324,326	3,668,734	21,636,819

NOTE.—The monetary unit is the milreis, worth at present about 16 cents.

TRADE CONDITIONS IN BRAZIL IN 1899.

The following extracts are from the annual report of Consul-General Seeger, of Rio de Janeiro:*

The results of both the import and export trade in 1899 were unsatisfactory—the commercial crisis is as severe as ever. The very considerable decline in the custom-house receipts show (1) that through their constant increase, the import duties have reached the point where they act prohibitively on the import trade, and (2) that the purchasing power of the people has seriously decreased, especially in so far as the coffee States are concerned.

The collection of 10 per cent of the customs duties in gold, inaugurated on January 1, 1899, was equivalent to an increase of 35 per cent. Since the 1st of January, 1900, 15 per cent of the duties are payable in gold, an increase of over 50 per cent in one year, and this in a declining market at a time of commercial stagnation.

The custom-house receipts for 1899 show a decrease of 25,034,072 milreis ($4,172,345.33 in United States currency) as compared with 1898.

UNITED STATES TRADE.

The United States occupies the sixth rank in imports into Brazil, while we buy more of Brazil's staples—coffee and rubber—than all Europe combined.

The following figures show the proportion of imports from the United States in 1899:

Articles.	Total.	From the United States.
Beans and pease.....bags...	20,595	1,200
Beer.....packages...	1,701	45
Butter.....do.....	57,235	.....
Candles.....boxes...	3,217	....
Cattle:		
Steers.....	9,977	.....
Sheep.....	12,037	.....
Cement.....casks...	130,957	10
Coal.....tons...	576,213	26,227
Codfish.....packages...	91,365	.....
Flour.....barrels...	300,862	142,589
Gin.....cases...	11,660	.....
Hay.....bales...	208,014	.....
Indian corn.....bags...	275,914	.....
Jerked beef.....bales...	419,769	.....
Hams.....packages...	†2,668	38
Kerosene.....cases...	457,350	457,350

* Received too late for insertion in Commercial Relations.

† Nearly all hams sold in Rio are imported from England. Most are of American origin, but the the English dealers pack them in accordance with the requirements of this market.

Articles.	Total.	From the United States.
Lard ..... packages...	142,107	142,033
Pine:		
Pitch ..... M feet...	22,328	22,328
Spruce ..... do.....	6,519	2,108
Swedish ..... dozens...	7,573	.....
White ..... M feet...	3,828	3,828
Rice ..... bags...	1,263,182	.....
Rosin ..... barrels...	25,340	25,330
Pork ..... packages...	4,700	4,700
Spirits of turpentine ..... cases...	7,110	7,060
Tar ..... barrels...	705	.....
Tea ..... packages...	3,470	.....
Wines:		
French ..... barrels...	186	.....
Do ..... cases...	7,737	.....
Italian ..... barrels...	852	.....
Do ..... cases...	3,247	.....
Portuguese ..... barrels...	40,844	.....
Do ..... cases...	227,076	.....
Spanish ..... barrels...	8,538	.....
Do ..... cases...	2,453	.....
Wheat ..... bags...	1,592,606	18,981
Dry goods:		
Cottons ..... packages...	28,462	668
Woolens ..... do.....	3,764	.....
Linens ..... do.....	767	.....
Silks ..... do.....	197	.....

There have been rumors of late in regard to a reciprocity treaty between Brazil and Argentina. It is difficult to conceive on what basis such a treaty could durably be arranged, inasmuch as Brazil is producing almost all the articles Argentina could sell here. The imports of corn, beans, pease, and pork have very considerably decreased of late, because local production is increasing; and this will probably continue in geometrical proportion. Before the first great revolution, over fifty years ago, the State of Rio Grande do Sul was a wheat-exporting State, and the ruins of many windmills between the cities of Pelotas and Bagé remind the present generation of the flour industry of days gone by. That State enjoys now a stable and excellent government; industries are being established in great numbers, railroads built, agriculture revived, the erection of modern flour mills begun, and in less than ten years Rio Grande do Sul, as well as the other southern States, will likely furnish the bulk of cereals and meat products consumed in Brazil—leaving little to be supplied by Argentina or Uruguay. Fortunately, the quality of United States flour is such that a considerable quantity of it will always find a market here. I was told by an expert that for certain grades of bakery products, American flour was indispensable, and that Brazilian bakers find it very advantageous to mix American flour with the Brazilian and Argentine product, even when the latter

is much lower in price. The characteristic feature of the trade in the Rio market in 1899 is a considerable decline in the sale of flour from the United States and a corresponding increase in favor of the Argentine Republic and of the local products. The figures are:

From—	1899.	1898.
	Barrels.	*Barrels.*
Argentina	142,589	212,837
River Plata	156,309	44,268
Austria	1,964	2,682
Other countries	.....	13,350
Total	300,862	273,137

In 1898, the production of the local mills was equivalent to 643,250 barrels; in 1899, to 790,713 barrels. I was creditably informed that there is of late no profit in importing flour into Brazil, and that several important failures in this line took place during the present year; but the same may at present be said of almost all branches of the import trade. The losses by failure of jobbers have probably more than absorbed the apparent profits in the trade. A very peculiar—not to say ludicrous—feature has developed in the dry-goods trade, viz, the fact that the foreign exporters, with long credits forced from them, have actually "financed" the local cotton mills, which are also protected by a very high tariff. While the foreign exporters have to give from nine months' to a year's credit, the local mills sell for cash. So it happens that out of the amount realized by retailers from the sale of imported goods, the local manufacturers are first paid, and what is left goes gradually into the hands of the foreign dealer. With a few exceptions, the local cotton mills did a flourishing business last year, and paid from 10 to 12 per cent dividends.

TARIFF.

The last National Congress did not find much time for the annual tariff changes. The alteration in the import duties I have already noted. The Executive has been granted power to levy maximum and minimum duties, and this has led to diplomatic correspondence with France, Italy, and Spain on account of their coffee duties, which are considered excessive by the Brazilians. In France, for example, coffee which sells in bond at from 75 to 80 francs ($14.47 to $15.44) per 100 kilograms (220 pounds) pays a duty of 156 francs ($30.10). Brazil demands a reduction of those duties of at least 30 per cent, and France seems not to be inclined to grant this demand. The consequence will probably be a tariff war between the two countries.

Heretofore, wheat has been imported into Brazil, under the title of "seeds," free of duty;" the last Congress put a duty of 10 reis per kilogram (0.0015 cent per 2.2046 pounds) on imported wheat.

THE NEW STAMP TAXES.

The new stamp taxes promulgated by the last Congress apply to the following articles, whether of domestic or foreign origin:

Articles.	Tax.	
	Reis.	*Cents.**
Cigars....each...	8 to 100	0.0012 to 0.015
Cigarettes....per package of 20 or less...	25	.00375
Cigarette paper....per package of 120 leaflets...	40	.006
Cigarette husks....do....	30	.0045
Smoking tobacco....per 25 grams...	40	.006
Snuff....per 125 grams...	60	.009
Beverages, including soda water, beer, wines, and spirituous liquors....per liter...	75 to 1,000	.011 to .15
Matches....per box...	20	.003
Salt....per kilogram...	30 to 100	.0045 to .015
Boots, shoes, sandals, slippers....per pair...	200 to 1,000	.03 to .15
Candles....per ½ pound...	25	.00375
Articles of perfumery....per each object...	20 to 1,000	.003 to .15
Pharmaceutical specialties (patent medicines)....do....	20 to 1,000	.003 to .15
Vinegar....per liter...	30	.0045
Preserves and pickles....per ½ pound...	25	.00375
Playing cards....per pack...	500	.075
Umbrellas and parasols....each...	500 to 2,000	.075 to .30
Hats....do....	500 to 2,000	.075 to .30
Cotton goods....per meter...	10 to 300	.0015 to .045
Canes and walking sticks....each...	200 to 2,000	.03 to .30

*Taking the market value of the paper milreis at 15 cents.

The new stamp law has some features that are very objectionable to the people here, and it has created quite a commotion in various trade centers of the country. Objection is principally made to the retroactive character of the law, which demands that all articles in stock, no matter when imported or made, shall be stamped. On account of its unpopularity, the execution of that part of the stamp law which relates to stocks in trade and was to take effect on March 15 has been indefinitely postponed by the Government. The latter is now in negotiation with experts, but the outcome is yet in doubt.

COFFEE AND THE PEST.

The export business of the last year, so far as the principal staple—coffee—is concerned, was as bad as the import trade till toward the end, when a marked improvement set in. It had a ghastly origin—the pest. The first case in one of the coffee centers of Brazil had scarcely been diagnosed (as a very mild and easily controllable form of the bubonic plague) when a wild shriek of terror

went up—from somewhere in Wall street. Soon the New York coffee prices went up also, and some stocks and bonds. Quotations in Brazil naturally followed. From that epoch dates the rise in coffee, so beneficent for Brazil. In that regard, the pest was a blessing in disguise to this country, and now, since it is gone, even those speculators who made such an exaggerated use of it will admit that it was a rather mild form of the dreaded disease—46 cases in all Brazil in three months, of which 17 were fatal (33 in Santos, 12 fatal; 11 in São Paulo, 3 fatal; 2 in Rio, 2 fatal).

The advance in the coffee prices was rapid—nearly 60 per cent in currency between the lowest price in September and the highest in December.

In spite of the importance of the matter, there are no official figures obtainable as to the quantities and value of coffee leaving this port. Statistics must be gathered from various private sources, and there are no reliable crop reports on which market estimates could be based. The general guess at present seems to be that the Brazilian coffee crop of 1900–1 is about 1,000,000 bags less than in the preceding year. If this assumption is correct, and if there is no reaction in the largely increased consumption of coffee which has taken place, especially in the United States, the present prices may easily be sustained.

Coffee plays such an important part in the life of Brazil that, with its present improvement, a much more hopeful feeling has set in, and the belief is gaining ground that the worst of the commercial crisis is over. The following are the results, in bags of 60 kilograms (132 pounds), of the coffee movement in the Rio de Janeiro market for the past two years:

Receipts and shipments.	1898.	1899.
	Bags.	*Bags.*
Receipts	3,514,871	3,672,219
Shipments:		
United States	2,150,492	2,336,886
Europe	901,112	719,493
Cape of Good Hope	118,172	129,240
River Plata and West Coast	90,233	90,549
Coastwise	180,644	228,540
Total	3,440,653	3,504,708

MARKETS OF GUATEMALA.

This consulate-general is in receipt of many letters of inquiry with reference to the possibility of a market here for United States goods, wares, and merchandise. The correspondents frequently intimate that a little more effort on the part of the consular representative would pave the way for the introduction of American goods into this district. A consular officer, be he ever so zealous in promoting trade relations between his country and the country to which he is accredited, can not alone create a market for merchandise. The trade here makes certain demands, which must be acquiesced in before orders are placed. The German, English, and French houses are pleased to grant these demands, and thus have a monopoly of the business. The first consideration is to learn the wants of the people and cater thereto. This is not done through the distribution of catalogues advertising goods. Our business men must proceed on the same basis that they adopt at home. Experienced traveling men, having a speaking knowledge of the language and carrying a full line of samples, must be sent here, fully prepared to demonstrate the superiority of their goods. It is a rare thing to see an American representative in Guatemala, while German, English, and French drummers are always in evidence. Foreign houses send men here specially to ascertain the wants of the people and the class of goods desired, and then they manufacture to suit the trade.

Articles of United States manufacture are undoubtedly of superior quality, but, necessarily commanding a higher price, are laid aside, preference being given to the cheaper article glossed over with a veneering pleasing to the eye. When one considers that the bulk of the purchasing population of the Republic of Guatemala is made up of Indians, this is not to be wondered at. I am informed that an English firm is at present manufacturing a hoe, advantageously titled the "Guatemala hoe," which sells in this market for 13s. ($3.26) per dozen, enormous quantities being sold. The American hoe, of better finish, but in no way better adapted for the purpose, commands $8.50 per dozen. Generally speaking, an inferior article of bright and lurid finish will find a ready sale here.

Guatemala imports from Germany enameled kitchen ware, musical instruments, umbrellas, cheap hats, leathers, shoe elastics, crockery, hardware and cutlery, paper, cheap cloths, beer, and wine.

From England: Quantities of white goods, prints, threads, cashmeres, cheap haberdashery, and farming implements.

From France: Perfumery, drugs, silk goods, wines, and liquors.

From China: Silks, rice, cinnamon, and tea.

From Chile: Wines, flour, and beer.

Spain has recently obtained recognition by shipping a cheap grade of blanket, underwear, revolvers, cigarette paper, and wine.

The United States rules the market in flour and groceries.

Shipping is an important factor in the introduction of goods into Guatemala. It requires about one month for goods sent from New York via the Isthmus of Panama to arrive in this city. The freight rate via this route is $22 per ton of 2,000 pounds. Cargo is carried from Europe via the Straits of Magellan at a cost of 22s. ($5.34) per ton of 2,240 pounds. Goods shipped from Europe by the latter route reach here in about seventy-five days.

Short credits are an obstacle to the extension of trade with South and Central American republics. Our houses usually require cash payment with the order. There are firms which give thirty or sixty days; but even this concession is of little service, as the time of payment often expires before the goods arrive. European houses give six months from the date of the invoice, and are not unduly excited if the account is a little overdue.

The subject of packing seems to be worn threadbare; this is one of the principal drawbacks to our trade. With foreign business houses, packing is a fine art. Seldom does an article come broken or damaged, and, if this should happen and demand be made for a rebate, the firm would grant it immediately, making apology for the accident. United States houses, in almost every instance, refuse to replace or give a rebate on damaged articles, although they may have sent goods (paid for before shipment) most insecurely packed.

Foreign firms, particularly Germans, have a power of imitation that helps to increase their business with these countries. They acquire a knowledge of the habits and tastes of the people and of the prices they usually pay for certain articles of home manufacture, such as wearing apparel, etc.; they then make the same article, underselling the natives themselves. To illustrate: The Indians make a certain article called the mountain coat. They spin and weave the raw cotton and wool in the crudest possible way, yet the garment is woven so closely that it is practically waterproof. The Germans imitate this article so closely that the Indians themselves can not tell the difference; and, to cap the climax, give them to the Indians to sell.

If our manufacturers will make up their minds to meet the conditions that are to-day influencing and controlling trade in Guatemala, as well as throughout all Central and South America, we will win the markets.

JAMES C. MCNALLY,
Consul-General.

GUATEMALA, *May 1, 1900.*

PARAGUAYAN FRUITS.

I do not think Paraguayan fruits have at any time reached our markets, but they are among the most luscious in the world and deserve the attention of importers. I believe it would be profitable to start a fruit-preserving establishment in Paraguay. There are none here. Sugar can be obtained at reasonable rates; a factory is already in operation here and another is being erected. The Argentine Republic and Uruguay would offer ready markets for the preserves.

A concession should be asked for the right of preserving the fruits of the country, with exemption from duties.

The amount necessary for such an establishment would be from $50,000 up, according to class of factory and output. This should cover expenses for new plantations, etc.

Guava is one of the most abundant of Paraguayan fruits. There are immense numbers of trees throughout the country, and women bring the fruit in bushel baskets to Asuncion. It is a yellow-skinned fruit, about as large around as an American dollar, and contains many small seeds. The tree looks like our plum tree, and yields about 1½ bushels. Guavas sell for 20 cents gold a bushel. The season is from January to April, and commences again in August. Out of season, they cost from 50 cents to $2.25 a bushel. This fruit makes a delicious jelly, clear and light red in color. It is retailed by private parties for from 30 to 50 cents gold a can, the can being 1½ inches in height and 6 inches in diameter. The jelly, I feel sure, would not only find ready acceptance in the United States, but in Europe. This fruit is also used to make paste, which sells for 30 cents gold a can of the size above described. Another class of sweets is made from the hulls of guava. These have a taste something like quinces. They are put up in small cans of about 1 inch diameter and 5 inches in height, each can costing 30 or 40 cents gold.

Naranjitas, or small, bitter oranges, produce excellent preserves. They are about the size of a lemon. The bitter taste is extracted by immersion in running water, and the orange entire—skin and pulp—is preserved. I am informed that this orange holds the flavor much better than the sweet variety. The tree of the naranjita is small and yields about 5 bushels. They sell in season (May to December) for 2 to 3 cents gold a dozen, and out of season for 8 to 10 cents.

I am told that three years after planting, the tree is ready to bear, and that sometimes it bears twice a year.

The preserves, in cans 1½ inches in diameter and 5 inches high, sell for 30 and 40 cents each.

The lemon, or limon, as it is called here, is not found in as great abundance as the naranjita, but is also of extensive growth. It is not quite as large as our lemon, and is preserved entire, like the naranjita. The lemon tree produces from 2 to 3 bushels. They can be bought for about two-thirds of a cent gold per dozen in December and January; at other times, for 6 cents or more a dozen. Preserves retail for 40 cents a can.

Aguai is a most delicious fruit, the size of a plum, with two or three shiny seeds. The tree is the size of a large apple tree and yields about 4 bushels. The fruit costs 40, 50, and 75 cents a bushel from September to the end of November. Many are found in the vicinity of Asuncion, especially in the town of Lambare; also in Campo Grande. Preserves, in cans of the size described, sell for 35 cents gold.

Abacaxis is a kind of Brazilian pineapple that has been introduced into Paraguay and grows abundantly. It is very juicy and exceedingly sweet. I am informed by experienced persons that the abacaxis, when preserved, will retain its flavor and remain fresh for years.

Labor here is cheap—women about 20 cents a day; men, 30 to 40 cents.

The cans, with labels, etc., should be made in the United States and sent here ready to be filled and soldered.

Freight rates from here to Buenos Ayres are $10 in Argentine paper (about $4 gold) per 40 cubic feet; and thence to the United States, 26 cents gold per cubic foot.

I recently had a conference with the new Minister of Foreign Affairs—Señor Don Fabio Quierolo—who desires to interest American capital in this country. He informed me that his ministry would be glad to furnish any information as to the products, natural resources, etc., of Paraguay.

JOHN N. RUFFIN,

ASUNCION, *March 31, 1900.* *Consul.*

Under date of April 6, Consul Ruffin writes in regard to exporting oranges to the United States. He says:

I have been informed that oranges are exported from Australia to London. They are also sent from Paraguay to the London market, where they bring the best price. The journey, including delays, is about forty days.

If direct steamship service is instituted between New York and Buenos Ayres, which I am informed is projected, oranges could

certainly be sent to our markets. The season is from May to September.

Oranges can be obtained here for almost nothing. The great point is to establish means of communication. When a bullock cart carries a load of oranges over rough roads for some days, they are hardly worth shipping when they get to the river; yet these oranges in the high lands are among the best in the Republic.

The use of flat-bottomed boats on the river and the construction of narrow-gauge lines of railroad would develop this industry wonderfully. The republics south of Paraguay would offer excellent markets for the fruit.

In regard to the possibility of United States trade in this line, I addressed inquiries to the Minister of Foreign Affairs. His reply is worth perusal, not only by orange growers, but by colonists and emigrants. It also gives information as to custom-house duties which will be of interest to exporters.

The letter reads, in part:

By the law of colonization and immigration of 1888, sixteen squares of land are granted to any family composed of three adults or five persons, including children, and definite title in the property is given after they have cultivated the land for five years.

The following are free of customs duties: Machinery in general for industry and agriculture, and for steamships; tools and furniture belonging to immigrants; rails, bolts, nuts, fish plates, crossings, switches, turntables, locomotives, wheels with or without shafts or axles; rolling stock for railroads or tramways, tubes for water or gas works, mining powder, seeds, plows, bush knives, fencing wire, telegraph wire; empty barrels or casks, demijohns, and bottles; scientific instruments, utensils and materials for printing, telegraphy, etc.

The colonization law is about to be reformed, so as to make it more liberal.

AGRICULTURE AND IRRIGATION IN THE RIO GRANDE VALLEY.

For the past two years, the farmers in the Rio Grande Valley below El Paso, Tex., and Ciudad Juarez, Mexico, have had no water with which to irrigate their lands, and there is no promise of a current in the Rio Grande River during the present year—that is, with the exception of the extra-seasonal water that comes down for a brief period, principally during the month of May. This flood water serves no practical purpose, unless it could be held in reserve. Agriculture depending upon irrigation derives but slight benefit from water obtainable for about one month in twelve. It may be stated, therefore, that this valley is now in the third year of a drought, and the consequences are patent to the most casual

observer. Agriculture has languished, and dwindling population and diminished business testify to the apparently hopeless condition due to the lack of sufficient water to irrigate the soil. Fruit trees have withered and died, alfalfa farms have burned and perished, and vineyards once producing an abundance of grapes have ceased to yield. People have been compelled, in many instances, to seek a livelihood elsewhere and in other pursuits than the cultivation of the soil. Formerly, there were in Juarez and the valley below this city about 20,000 people; now, there are less than 8,000.

Spreading southeast of Ciudad Juarez are more than 100,000 acres of land as fertile—when irrigated—as the bottoms of the Nile. Mr. Weber, a representative business man of this place, who has a thorough knowledge of existing conditions and latent resources, says the valley below and about El Paso and Juarez is capable, with sufficient water, of producing more than $2,000,000 annually in grain, grass, and fruits. Without irrigation, it is a dry waste of alluvial deposit upon which nothing will grow but cottonwood trees and useless bosk.

From the fact that the soil is naturally so fertile, it may be reasonably concluded that more water than formerly has been drawn from the river in Colorado and New Mexico. There, population has rapidly increased, and agriculture has been extended to the limit of the river's capacity to supply irrigation. The consequence is the river ceases to be a river at all before it reaches El Paso, Tex., and Ciudad Juarez. According to the census of 1890, 4,000 persons were engaged in the cultivation of 100,000 acres of land in the Rio Grande Valley of New Mexico. The number of persons engaged in agriculture and the number of acres added to those already cultivated, it is estimated, have more than doubled. As the amount of water drawn from the Rio Grande in northern New Mexico can not be diminished, the outlook for the farming and dependent interests in the valley about and below El Paso and Ciudad Juarez is unpromising.

Each year, with the melting of the snow in Colorado, there is a flood in the Rio Grande. Sometimes the river becomes a wide, raging torrent of large volume. The water dashes by for a brief period, and then the river becomes dry again. In 1897, the flood came in such volume as to endanger property along its course. In 1898, it was almost as high. In 1899, there was a brief flow, which was quickly spent. The outlook for a large volume of water this spring appears to be unpromising.

This valley will never again prosper unless something is done to provide water for the purposes of irrigation. And whatever may be the law supporting or opposing the claims of the people of Mexico

against the United States for the loss occasioned by the diversion of the water, the construction of a dam by Government to impound the flood waters of the Rio Grande would constitute an act of comity which would restore prosperity to a languishing valley and benefit the inhabitants of western Texas and southern New Mexico, as well as the citizens of Mexico residing on the south side of the Rio Grande.

CHARLES W. KINDRICK,
CIUDAD JUAREZ, *April 12, 1900.* *Consul.*

COLOMBIAN PORT DUES PAYABLE IN GOLD.

Consul Shaw, of Barranquilla, under date of April 23, 1900, reports that, according to a decree promulgated by the Minister of Finance April 2, 1900, port charges, which have heretofore been collected in Colombian currency, are now to be collected in the gold coin of the country to which the vessel may belong. This materially increases the expenses of vessels entering and clearing at Colombian ports. The decree reads:

DEPARTMENT OF FINANCE,
Bogotá, April 2, 1900.

COLLECTOR OF CUSTOMS,
Cartagena.

Under date of March 25, the following legislative decree was promulgated:

"ARTICLE 1. From the 1st day of May next, the amount heretofore collected in Colombian currency for light-house, wharfage, tonnage, and pilotage dues, charges for ballast, and in general all port dues will be paid by vessels arriving at the ports of the Republic in the gold coin of the country from which they have sailed or its equivalent in Colombian currency.

"ART. 2. The concessionaries of light-houses and wharfs may celebrate contracts with the Government for the purpose of modifying the existing conditions in relation to the duration of their privileges and the portion of the fees which shall be paid to the Republic from the products of said light-houses and wharfs."

If for any reason such arrangements are not made, there shall be collected in gold only the dues belonging to the Government, according to the respective contracts or acts of concession (now in force).

CARLOS CALDERON.

TARIFF DECREE IN SALVADOR.

Consul Jenkins writes from San Salvador, April 8, 1900:

I inclose an act passed by the National Assembly and published in the official organ of the Government of Salvador of the 5th instant. It relates to the increase of customs duties.

A memorial has been presented by the merchants to the President against its immediate enforcement.

The decree reads:

The National Legislative Assembly of the Republic of Salvador, considering:

That, in consequence of the decrease in value of certain products, the revenues produced at the present time are not sufficient to supply the requirements of the public administration; that, owing to the same cause, there remains a considerable deficit, which it is impossible to cover without having recourse to fresh obligations; and that the present business conditions are such as to warrant a proportional increase of the duties on imported goods;

Therefore, in virtue of the power therein vested, decrees:

ARTICLE 1. That the duties heretofore collected in the custom-houses of the Republic, upon the importation of foreign merchandise, shall be raised to 150 per cent.

ART. 2. The Executive is empowered to lower the said duties when circumstances permit of this being done or the condition of business demands it.

ART. 3. The present decree takes effect from the date of its publication.

Given in the chamber of the National Legislative Assembly, in San Salvador, on the 3d day of April, in the year 1900.

VENEZUELAN DUTIES ON RUM, WHEAT, AND DRUGS.

Consul Plumacher sends from Maracaibo, under date of May 4, May 7, and May 10, 1900, respectively, copies of decrees affecting the importation of rum, wheat, and certain drugs. The first prescribed that after April 20, 1900, the introduction through the custom-houses of the Republic of sugar-cane liquors or rum of foreign manufacture was to be temporarily permitted; such articles to pay as import duty, even if introduced from the Antilles, the amount prescribed for those liquors comprised in article 5 (1.50 bolivars per kilogram, or 28.9 cents per 2.2046 pounds).

The second provided that from the 15th of May, wheat in grain imported through the custom-houses of the Republic should be taxed according to the third class of the import tariff (30 centavos per kilogram, or 5.8 cents per 2.2046 pounds); and that the amount stipulated in the war tax on flour should also be levied on this article.

The third stipulated that after April 23, the substances called paste (extract of campeche), boric acid, and borax or extract of soda, not comprised in the tariff, should also be included in the third class, whenever introduced through the custom-houses of the Republic.

EXPORT OF BONES AND BONE ASH FROM URUGUAY.

Inquiry has frequently been made as to the export of bones and bone ash from the Republic of Uruguay by manufacturers of animal fertilizers and others, and the following will answer the questions in detail.

Crude bones are exported from Uruguay in large quantities, the statistics showing for the years named these results:

Year.	Total export.		To United States.	
	Kilograms.	*Pounds.*	*Kilograms.*	*Pounds.*
1896	17,174,054	37,861,919	2,129,610	4,694,938
1897	17,244,477	38,017,174	4,389,704	9,677,541
1898	13,460,616	29,675,274	2,258,933	4,980,044
1899	18,410,415	40,587,601	2,092,001	4,612,025

Countries other than the United States taking this product are given as follows:

Country.	1896.		1897.		1898.	
	Kilograms.	*Pounds.*	*Kilograms.*	*Pounds.*	*Kilograms.*	*Pounds.*
England	10,506,058	23,161,655	10,674,994	23,534,092	5,521,317	1,217,638
Italy	3,240,048	7,143,010	3,144,739	6,932,892	884,421	1,949,795
France	549,264	1,210,907	34,300	75,618	1,496,379	3,298,917
Brazil	95,565	210,683	.....	.....	283,347	724,667
Spain	271,880	599,387	.....	.....	.....	.....
Belgium	202,500	446,432	152,539	336,287	32,098	70,763
Germany	247,996	546,732	212,034	467,450	319,374	704,092

These exportations are from Paysandu, Fray-Bentos, and other ports; but the greatest amount is from Montevideo. Bone ash is generally exported in "granel," by round charter of a sailing vessel to the destined port, though tramp steamers take it for Europe in the absence of something more desirable. If sent by steamer, it must be bagged. Grease is largely removed from the bones coming from the slaughterhouses, but bones from the country are carefully saved and dried, and find a ready market. Selections are made for commercial purposes from the bones before they go on the market for fertilizers, these being sent almost exclusively to Europe. The price per ton for fertilizer bones varies, but is now quoted at $18.75 per ton for slaughterhouse and $19.50 per ton for "camp" dried, free on board.

Many thousands of horns go to the United States—the export value for 1899 being $24,067.20. Animal fertilizers are not used in

the Republic, save in a small way by vine growers, who use the ashes for the vineyards.

Freight per ton on bones to the Atlantic ports of the United States is now quoted at $4.50 sail. Horns, generally carried by steamers, go at $6 per 1,000 kilograms (2,204.6 pounds), but must be bagged.

The bone ash of Uruguay is made at the "saladeras" (slaughter-houses), where the bones and waste, after tanking for grease, are used for fuel in making steam. Coal is all imported from Europe—Wales or Cardiff—and costs at the boiler not less than $9.25 per ton. The bones and waste give the needed power, and, as bone ash, find a market at an average value here of $6 per ton.

ALBERT W. SWALM,

MONTEVIDEO, *March 17, 1900.* *Consul.*

EXPORT OF DEERSKINS FROM FOREIGN COUNTRIES.

At the instance of a California firm, a Department instruction was sent, under date of September 21, 1899, to consular officers in British Columbia, Latin America, and China, asking for information relative to the exports of deerskins. The answers* received follow.

BRITISH COLUMBIA.

Consul Smith writes from Victoria:

During the past year, the exports of deerskins have been 20,000, much larger than for several years past, as owners had been holding them for better prices. These deerskins were of the average weight of 225 pounds per 100 skins, and were sold here at 18 and 19 cents per pound. They were all sent to the United States—principally to Portland, Oreg., and San Francisco.

The laws of British Columbia prohibit the exportation of raw deerskins, and the American duty on dressed or tanned deerskins makes it unprofitable to send them to the United States. Those shipped during the last year were "pickled," which the courts here decided could be exported, and they were reported to be admitted free of duty to American ports.

Deer have measurably disappeared from this Province, and it is understood that the provincial parliament of British Columbia, in obedience to public sentiment, will pass a law in 1900 absolutely prohibiting the export of deerskins in any state, which will, of course, effectually extinguish the export trade in that article from this port.

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*ADVANCE SHEETS have been sent the inquirer.

MEXICO.

Consul-General Barlow sends the following from Mexico City:

There are very few deerskins exported from this district. I am advised that the dealers pay for them from 50 to 55 cents Mexican silver (23 to 25 cents gold) per pound, and that they average 1¼ pounds each in weight.

Vice-Consul Viosca reports from La Paz:

The total yearly export from this district amounts to 10,000 skins, of an average weight of 220 pounds per 100 pieces, and the uniform price has been 30 cents Mexican (14 cents gold) per pound. The production is decreasing noticeably, as there is no restriction on hunting at any season.

The skins have been regularly exported to the principal commission houses of San Francisco.

Vice-Consul Wells, of Tuxpan, says:

Exports from this port for the quarter ended September 30, 1899, amounted to 58 bales, averaging 250 pounds to the bale, covering from 75 to 125 skins each. Weight varies from 2 to 4 pounds.

The increase of shipments from this port has been remarkable; those for the quarter ended September 30 were 50 per cent more than for the entire year ended June 30, 1899.

Prices vary according to size and condition, averaging 36 cents Mexican (17 cents gold) per pound.

The skins are most carefully put up, and the trade promises to be steady, many of the merchants extending their business. All skins and hides are shipped to New York.

SALVADOR.

The following has been received from Consul Jenkins, of San Salvador:

The deerskin in Salvador varies in weight from 2 to 2½ pounds, and is sold for 25 to 30 cents (10 to 12 cents gold) per pound. The exportation to the United States amounted to 3,622 pounds for the year ended June 30, 1899, or about 20 per cent of the total shipments.

The greater part of the exportation goes to Hamburg, where it is claimed better prices prevail.

The freight rates per pound are as follows: San Francisco, 1 cent; New York, 1.8 cents, via Panama; Hamburg, 1 cent, via Magellan; England, £4 10s. ($21.89) per ton of 2,240 pounds, via Straits of Magellan.

BRAZIL.

Vice-Consul Krause writes from Pernambuco that no deerskins are exported from that district.

URUGUAY.

Consul Swalm, of Montevideo, says:

The export of deerskins from Uruguay is small, and consists almost wholly of skins sent down the river from Paraguay. In 1895, the total export was 6,154 kilograms (13,567 pounds), valued at $1,848; in 1896, the export fell to 2,978 kilograms (6,565 pounds) of $875 value; and in 1897, the export was 10,509 kilograms (23,168 pounds), valued at $3,153. For the fiscal year 1898, the export of stag and carpincho skins to the United States was $8,948, exceeding by over $6,000 the shipments of the year previous. For the past two years, the exports have been taken almost exclusively by European houses, that market apparently being deemed the most advantageous to the seller here.

There is a constant decrease in the supply of deerskins. For the past year, the invoice value of shipments to the United States of "carpincho and stag skins" (baled together) was $2,374. There is an export duty on these skins of $1.04 per 100 kilograms. The price in this market has ruled quite steady at $3 for narrow and $3.50 for wide, per 100 kilograms. The supply is small, and will be less. Manufacturers would do well to address their communications to Messrs. Thomas W. Howard & Co., exporters, 81 calle Solis, Montevideo, who have had an experience of thirty years in American trade.

VENEZUELA.

Consul Plumacher writes from Maracaibo:

Deerskins are plentiful in this section of Venezuela, but up to date very little attention has been paid to this article. Prices vary from 8 to 12½ cents per pound. They are packed into bales of 100 skins to a bale, weighing from 220 to 250 pounds. All the skins from this district are shipped to New York.

I understand that Mr. Adolf. Lachtrup, of the firm of Minlos Witzke & Co., of this city, intends to go into business for himself in 1900 and make the buying of hides and skins a specialty. I believe

it would be of advantage for manufacturers to enter into communication with him.

Below I give statistics showing the export of deerskins in 1898:

Quarter ended—	Quantity.	Value.
	Pounds.	
March 31	1,473	$160.08
June 30	1,857	236.97
September 30	1,888	231.41
December 31	582	82.26
Total	5,800	710.72

CHINA.

Consul Wilcox, of Hankau, reports:

From the best information that I have been able to gain, I learn that no deerskins are exported from here. The only deer that has its habitat in this region is *Cervis axis*, commonly called hog deer. There has been no special demand for their skins, which are generally ruined by being shot full of holes. The size of the skins averages 26 by 16 inches, and the weight per 100 skins is 66 pounds. The price is about 22 cents gold per skin.

If the trade were worked up, it is estimated that 10,000 could be purchased here annually, and the skins would be brought to market in a better condition. Mr. T. H. Croucher, of this city, is engaged in this line of business.

GERMAN CAPITAL IN CENTRAL AMERICA.

The following figures show the efforts that Germany is making to build up trade in foreign countries, especially in Guatemala, Nicaragua, and Costa Rica. Her power in these Republics is increasing from day to day. Her superfluous population which seeks to emigrate is guided and helped to locate in Central America. In these three countries, a hundred German commercial houses and stores, large and small, with a capital amounting to $8,333,000, are doing a thriving business. Half of these are engaged in importing and exporting. Not only the greater part of the German Central American trade (mostly in coffee and wood, amounting to about $7,140,000 annually) is done through these houses, but also a part of the English and Californian trade. There are, besides, five well-established German banking houses in these countries, which are doing a profitable business. There may be added money to the amount of $16,000,000 circulating in industrial enterprises, etc. The scene of the greatest activity is Guatemala, where $10,000,000 are invested in agricultural

and other undertakings. Two railroads, for the most part in German hands, have a working capital of $595,000, and a sum greater than this is invested in a lighting plant.

The value of the Central American land in German hands is estimated at $18,088,000. Of this, 85 per cent is in Guatemala, 12 per cent in Costa Rica, and 3 per cent in Nicaragua. The Germans also hold Government bonds, shares in banks, mortgages, etc., making their total interest in Guatemala, Nicaragua, and Costa Rica $44,030,000, $10,472,000, and $9,520,000, respectively. Some $1,666,000 are invested in Salvador and $1,428,000 in Honduras. The total value of German investments in the Central American republics may thus be estimated at more than $67,000,000.

J. F. MONAGHAN,
Vice and Acting Consul.

CHEMNITZ, *May 8, 1900.*

GERMAN COMMERCIAL INTERESTS IN CHINA AND JAPAN.

Until recently, Germany had taken no great part in the commercial development of China; but with the acquisition of a sphere of influence, together with industrial concessions of various kinds, German interests in the Celestial Empire have become considerable.

In 1898, German exports to China amounted to $10,424,000. The imports into Germany from China for the same year amounted to $5,164,600. German warehouses are located in Hongkong, Swatow, Amoy, Fuchau, Chefoo, Tientsin, and Shanghai—altogether about one hundred and five establishments, of a total value of $30,000,000; these render material assistance to German trade. These houses ship great cargoes of tea, rice, and feathers to Germany in return for machinery and iron products of every description.

In Shanghai, there are German cotton and silk mills to the value of $1,000,000. In addition to this, German capital is invested in a great many English enterprises; for example, the docks, shipping and insurance companies of Shanghai. These interests are valued at $18,000,000. The German Shantung Railroad Company has a capital of $3,000,000. The interests of private individuals of German nationality in China are valued at $2,000,000. In Shanghai, the German Asiatic Bank does business with a capital of about $3,000,000. With the exception of a small vineyard in Chefoo, which is valued at $25,000, the Germans own no plantations.

In Japan, there are sixty-five German warehouses doing business with an aggregate capital of $5,000,000. German industrial enterprises in Japan are valued at $3,000,000. German interests in Formosa, which is ruled by Japan, amount to $1,500,000. In Japan's

sphere of influence in Korea, about $1,500,000 German capital has been invested.

In the aggregate, German interests in China and Japan are not far from $90,000,000 in value.

ERNEST L. HARRIS,
Consular Agent.

EIBENSTOCK, *May 4, 1900.*

CUSTOMS-DEPOT LAW IN JAPAN.

Consul Harris sends from Nagasaki, April 14, 1900, copy of the Japanese customs-depot law, with regulations for enforcement, taking effect May 1, 1900, as follows:

CUSTOMS-DEPOT LAW.

Law No. 82, promulgated on the 5th of April, 1900.

(1) Temporary depots shall be established at the customs for the purpose of allowing foreign goods landed to be stored therein temporarily. The customs where such depots are to be established shall be determined by imperial ordinance.

(2) The Minister of Finance may restrict the kinds of goods to be stored in the depots.

(3) The goods stored in the depots shall be considered not to have been imported.

(4) The goods stored therein may be repacked and sorted, and may receive other treatment within the depots.

(5) The period of storage of goods shall not exceed full three months; but the superintendent of customs may prolong the period, if he deems it necessary, according to the request of the owner.

(6) The superintendent of customs, if he deems it necessary for the good order or control of the depots or arrangements of goods, may order the removal of the goods, or carry out other necessary measures.

(7) When the goods in depots have exceeded the period for storage, or when the goods are not removed by the person who has been ordered to do so according to the preceding article within the period indicated, they may be taken into custody according to the customs law.

(8) Customs officers may search the persons and belongings of those who enter and leave the depots.

(9) The Government is not held accountable for any damage to goods stored in the depots.

(10) Any person who desires to store goods in a depot shall apply to the customs.

(11) No goods stored in the depots can be removed therefrom, unless a permit for importation, reshipment, transportation, or entry into a bonded warehouse, or a special permission of the superintendent of customs, has been obtained.

REGULATIONS FOR THE EXECUTION OF THE CUSTOMS-DEPOT LAW.

Imperial ordinance No. 139, promulgated on the 5th of April, 1900.

(1) Customs depots shall be established within the jurisdiction of the Yokohama and Nagasaki customs.

(2) The places where the customs depots are to be established shall be indicated by the Minister of Finance.

(3) The application for storage of goods shall be made by means of a document stating the name and nationality of the ship by which the goods had been brought;

the marks, numbers, nature, and value of the goods; and the number of packages.

(4) Any person who desires to apply for prolongation of the period of storage of goods, according to the provision of article 5 of the customs-depot law, shall present to the customs a document stating the marks, numbers, nature, and quantity of the goods, the number of packages, the period for prolongation and the reasons thereof, and obtain a special permission.

(5) The customs depots shall be closed between sunset and sunrise and on customs holidays; but the superintendent of customs may grant a special permission for opening the depots temporarily.

(6) Any person who desires to obtain a special permission for opening depots temporarily between sunset and sunrise, or on a customs holiday, shall present to the customs a written application stating the particular reasons thereof and the period of opening.

(7) Any person who has obtained the special permission mentioned in article 4 or in article 6 shall pay a fee.

(8) Any person who makes use of a customs depot shall pay a fee for it.

(9) The rate of fees shall be determined by the Minister of Finance.

(10) The fees for special permission may be paid in revenue stamps.

Any person who desires to pay a fee in revenue stamps shall present the note of payment, having affixed the stamps thereon.

Supplementary rule.

The present ordinance shall be put into force on the 1st day of May, 1900.

COMMERCE OF CHINA IN 1899.

Consul-General Goodnow sends from Shanghai, March 13, 1900, tables showing imports of cotton goods into China in 1889, 1898, and 1899; imports of American, Russian, and Dutch kerosene in 1898 and 1899; and the customs report on the trade of China and abstract of statistics for 1899. Mr. Goodnow says:

With regard to piece goods, I desire to call attention to the great increase in the import of Americans, although it was considerably checked by the high prices ruling in the last quarter.

The consumption of kerosene (American) was lessened throughout the entire year by the high price.

In the report on the foreign trade, I would note the increase of 22,000,000 taels in the importation of sundries, which are nearly all from America; but I am not able to obtain exact figures at present.

The value of flour imported (all from America) is 3,189,497 taels ($2,266,138), as compared with 1,774,712 taels in 1898.

The net value of the import trade was 55,169,122 taels in excess of 1898, in spite of the political troubles which have rendered capital timid in this country.

It is a humiliating fact that of the total tonnage, entrances, and clearances, the United States only contributed 1 per cent; of the total tonnage entering from foreign ports, the American flag floated over only 3 per cent.

Imports of cotton goods.

Articles.	1898.	1899.	1889.
Drills:	*Pieces.*	*Pieces.*	*Pieces.*
English	146,343	143,827	.....
Dutch	10,710	29,490	.....
American	1,298,986	1,607,710	621,743
Jeans:			
English	123,489	74,993	.....
Dutch	38,200	30,690	.....
American	105,603	126,000	9,533
Sheetings:			
English	617,292	856,336	.....
Indian	16,520	42,192	.....
American	2,472,035	3,960,197	875,568

Imports of kerosene.

Description.	1898.	1899.
	Gallons.	*Gallons.*
American	42,335,950	27,628,418
Russian	13,497,620	19,776,760
Dutch	13,223,075	3,861,898

Report on the Foreign Trade of China for the Year 1899.

GENERAL.

The foreign trade of China during the year 1899 was characterized by an astonishing development, and merchants, both foreign and native, made handsome profits in almost every branch. The political situation, although still unsettled, gave rise to no immediate fears; exchange remained remarkably steady; the rice crop was abundant; the spring weather during the critical period for the silkworms was unusually favorable; and, except for a recrudescence of piracy on the West River, there were no disturbances to check trade. The gratifying result was that the year beat all previous records and showed an advance without precedent. The total trade was valued at 460,533,288 haikwan taels ($327,208,901), a rise of 91,916,805 haikwan taels over 1898, and more than double the figures for 1890. The internal trade of the country was also unusually brisk, and the important changes which will be brought about by the extension of railways have already been proved. Niuchwang and Tientsin have promptly responded to the stimulus of better means of communication, and the trade at those ports has leaped forward, although the former suffered from a severe outbreak of plague. It is found that immediately trains begin to run, districts through which there was comparatively little traffic, such as between Paoting and Pekin, suddenly commence to hum with life and activity, and there springs up a flourishing trade which was formerly undreamed of and impossible for want of cheap transport. The Russian line has been completed as far north as Moukden, and the extraordinary richness of Manchuria will soon become evident. The Lu-Han Railway, from Pekin to Hankau, makes steady progress. Within six months, it is expected that trains will be running as far south as Chingting. The difficulties in the southern section, where extensive tunneling is required, make construction slower there; but rails have been laid for 40 kilometers (24.8 miles) northward from Hankau, the track is now being made as far as Sinyang—to which place it is hoped to run trains within two years—and the whole line of 1,200 kilometers (744 miles) is to be completed in five years, including the difficult engineering feat of bridging the Yellow River. The line between Taku,

Tientsin, and Pekin continues to advance in prosperity, and the extension beyond Shanhaikwan toward Niuchwang is being rapidly pushed forward. Yingkou, the real port of Niuchwang, will shortly be connected by rail with the capital. Difficulties regarding the question of control are hampering the concessionnaires of various other lines; but it is to be hoped these will soon be satisfactorily arranged, as there is no longer any doubt that the effect of cheap transport will lead to an enormous development of China's trade. Santuao, which possesses a splendid harbor, was opened as a branch office by the Fuchau customs on the 8th of May, and, although a very small trade has been done up to the present, there seems reason for expecting a good future for the port. At Nankin the custom-house commenced work on the 1st of May, and Yochow was opened as the first treaty port in Hunan on the 13th of November. By arrangement with the German Government, a custom-house was established on the island of Tsingtao on the 1st of July, to control the trade passing to the mainland through the leased territory of Kyao-chau.

REVENUE.

The total revenue for the year was 26,661,460 haikwan taels ($18,942,967), or 4,158,063 haikwan taels higher than the previous year and 3,143,439 haikwan taels more than was collected in 1891, which was our record year. As the average rate of exchange was higher than during 1898, this represents a substantial gain in the amount available for the liquidation of foreign obligations. There was an increase under every heading.

FOREIGN TRADE.

As what was written last year concerning China's foreign trade* was criticised in some quarters as too optimistic, it may be well to point out that the report dealt with the condition and prospects of the commerce as affecting China's national interests and prosperity, and not from the point of view of the individual foreign merchant, who finds the volume of trade too restricted for the amount of competition encountered. It is true that the trade, when the possibilities are considered, is of small dimensions; but the future is distinctly bright, if the results to be expected from the coming railways are calculated. The Chinese, from highest to lowest, are traders by instinct and are prompt to take advantage of every opportunity of profit. To form an idea of what future prospects are, it is fair to make a comparison with India. The areas of the two Empires are almost identical and their products very similar. But China has a larger, a more industrious, and more intelligent population; while, on the whole, the country is probably more fertile and possesses greater mineral resources. In the former country, trade is assisted by good roads, railways, and lightness or absence of taxation; in the latter, at present, it is hampered by directly opposite conditions. The result is that the exports from India are worth three times the exports from China. With equal opportunities, which the building of railways and opening of mines will bring about, this discrepancy should disappear. The year 1899 has shown in a striking manner what an advance is made when circumstances are propitious. As will be shown later on, the year was favorable to exports, and we have as a result to record in each direction the highest figures ever reached.

IMPORTS.

The net value of the import trade was 264,748,456 haikwan taels ($188,103,778), being an advance of 55,169,122 haikwan taels over the previous year and double the figures for 1890. Opium of all kinds jumped from 49,785 piculs to 59,100 piculs (6,638,000 pounds to 7,880,000 pounds) and realized most remunerative prices. Both importers and native dealers made large profits. The reason for this

* See CONSULAR REPORTS No. 228 (September, 1899); ADVANCE SHEETS No. 468 (July 5, 1899).

remarkable increase in a trade which has been steadily dying out was probably due to the bad crops of the native drug, though information on the point is obscure. It is said that the adulteration of native opium has affected it adversely. Morphia, which was noted in last year's report as arriving in constantly increasing quantities, rose from 92,159 ounces to 154,705 ounces. The Chinese Government has been warned of the evils which are resulting from the improper use of this drug, and steps are now being taken to have the importation restricted. The trade in cotton goods, which had remained practically stationary for three years, made a great advance, the value having risen from 77,618,824 haikwan taels ($54,255,557) to 103,465,048 haikwan taels ($73,571,917). It would be tedious to particularize all the gains, which will be found on reference to the table of imports, where it will be seen that every article mentioned—with the exception of gray shirtings (insignificant decrease), T cloths, English and Dutch jeans, and English yarn—was imported in quantities exceeding the figures for 1898. As regards the falling off in T cloths, it is explained that their place is being taken by what are generally known in the trade as "continentals," which are included in our returns under the heading of sheetings. It will be observed that English sheeting showed an advance from 523,366 pieces to 763,762 pieces, and the increase must be ascribed partly to the higher prices which prevailed in the United States. American sheetings rose again from 2,483,991 pieces to 3,975,903 pieces. Speaking generally, the year commenced with small stocks on hand, and demand was brisk. A short cotton crop throughout the world gradually raised prices, but contracts for delivery in China were made so far in advance that importers were able to lay down their goods at prices which realized handsome profits. Towards the close of the year, higher prices tended to check business, and it is possible that importers may have to face some delay in disposing of the importations which arrive at dearer rates. The feature most worthy of note was the continued advance of American and Japanese goods, the latter especially showing very rapid development. The class of white shirtings now imported is greatly superior to what came formerly, the people demanding a better article. It is worth noticing, as evidence of prosperity, that what may be described as cotton goods de luxe, such as chintzes, printed twills, cambrics, etc., and handkerchiefs, were purchased in much larger quantities. Handkerchiefs jumped from 305,314 dozens to 678,356 dozens. Cotton flannel showed a remarkable increase, from 153,885 pieces to 397,469 pieces; and Japanese cotton flannel, from 56,835 pieces to 176,676 pieces. English cotton yarn suffered a falling off, while Indian and Japanese increased, the latter having now risen to 779,700 piculs. It is probable that the local mills will gradually get the better of their foreign rivals. The yarn made from Chinese cotton is much whiter than the Indian yarn and obtains better prices, which explains why Japan imports raw cotton from China to mix with Indian.

Woolen goods, though not showing such a promising progress as the cotton goods, made a distinct advance, camlets, lastings, long ells, and blankets all having increased.

The metal trade remains inelastic, and the total value was slightly below that of the previous year.

The importation of sundries rose in value from 89,353,602 haikwan taels ($66,658,167) to 111,637,897 haikwan taels ($79,318,726), and it is interesting to notice the share in this increase taken by articles showing progress in wealth and a desire for comfort and luxury. Candles, cigars and cigarettes, clocks and watches, flour, window glass, lamps, matches, needles, perfumery, soap, sugar, and umbrellas were all purchased more freely. Flour, which is used in the making of fancy cakes, rose from 1,774,712 haikwan taels to 3,189,497 haikwan taels ($2,266,138). In kerosene oil, it will be seen there was a falling off in the importation of the American and Sumatran products, while Russian oil more than doubled in value. Of

raw cotton, 278,366 piculs (37,115,566 pounds) were imported. As the crop during the year was a very short one, owing to wet weather, a much larger importation may be expected during 1900, the price of local cotton having already risen from 12 taels to over 18 taels per picul.

EXPORTS.

The value of the exports was estimated at 195,784,832 haikwan taels ($139,105,123), an increase of 36,747,683 haikwan taels over the previous year's total, and, as in the case of imports, more than double the figures for 1890. In view of the fact that railways are now opening up districts previously cut off from communication with ports, it is fairly safe to predict that in less than another ten years the trade will have again doubled. Exports are at present checked by price and inferior quality—the former due to cost of carriage and heavy taxation, the latter to adulteration or faulty methods of preparation for foreign markets. Prices will come down when railways bring the goods more cheaply to the ports and increase the supply. Among the articles affected by defective preparation or adulteration may be mentioned straw braid, wax, goat skins and hides, bristles, feathers, tallow, wax, musk, rhubarb, nutgalls, arsenic, hemp, and tobacco. The complaints made by exporters have been laid before the Government, and, in view of the necessity of increasing the export trade to meet expenditure abroad, it is to be hoped that steps will be taken to teach the people that practices which may bring a temporary profit are opposed to their future interests.

The export of black tea appears to be slowly reviving. In last year's report a gain of 82,218 piculs (10,962,400 pounds) was recorded, and 1899 saw a further advance of 88,445 piculs (11,792,666 pounds). An interesting experiment made in the Wenchow district seems to have proved conclusively that the application of Indian methods of manufacture to Chinese tea, to lower grades at any rate, results in marked improvement. One-half of a small chop of tea was rolled by machinery, the other half being rolled by hand by the same maker. The machine-rolled tea fetched 8d. (16 cents) per pound in London on the 20th of July, and the same broker sold the hand-rolled tea on the 27th of July for 6½d. (13 cents) per pound, the former being of distinctly superior quality. The experiment is to be tried on a larger scale, but there is difficulty in obtaining fresh leaf in sufficient quantity. It would seem that the Chinese have still something to learn as regards plucking and pruning. The quantity of green tea exported also showed an increase, being 12,630 piculs (1,684,000 pounds) more than in 1897 and 28,492 piculs (3,798,933 pounds) above the total of 1898. There was a falling off in the quantity exported to Great Britain and the colonies; but the United States took 119,184 piculs (15,891,200 pounds), as against 77,540 piculs (10,338,666 pounds) in 1898. While speaking of the United States, it may be mentioned that the new regulations for preventing the importation of spurious teas had a decided effect in improving quality; but it would seem that the working of the regulations is somewhat irregular and gives rise to well-founded complaint. A consignment of tea which was rejected and sent back to Shanghai was reshipped in its original condition and was allowed to be imported. It is reported that the results of the year's trade were unsatisfactory both to native dealers and to foreign exporters. Fine teas sold in London often realized a serious loss, while the commoner kinds brought occasionally handsome profits. This is significant of the deterioration of the public taste, which has been educated to prefer bitterness and strength to delicacy of flavor and wholesomeness.

The total value of the export of silk of all kinds and of silk products was 82,109,370 haikwan taels ($58,338,707), as compared with 56,103,919 haikwan taels ($39,216,738) in the previous year.

Bean cake as a fertilizer is growing in favor in Japan, and the export has risen from 1,544,396 piculs (205,919,466 pounds) in 1896 to 2,509,525 piculs (334,603,333 pounds) in 1899. The export of beans also shows a steady growth, having more

than doubled in three years. Bristles, with more care in cleaning and sorting, would soon become an important article of export. Tobacco, which has hitherto showed such steady progress, received a check, probably due to defective sorting and packing, and the exportation fell from 371,137 piculs (49,484,933 pounds) in 1898 to 173,987 piculs (23,198,266 pounds). There was again a large increase in the exportation of wool, which amounted to 242,152 piculs (32,286,933 pounds), and there is no doubt this trade will develop. The exportation of camels' wool was more than double that of 1898.

VALUES.

The estimated value of the foreign import and export trade, exclusive of bullion, is calculated in the same way as in the report for 1890. As regards the apparent excess of imports over exports, attention is called to what was written on this subject in last year's report;* and it should be further noted that the railway material imported, included under unenumerated sundries and valued at about 550,000,000 taels ($396,000,000), was paid for abroad out of the capital of the foreign companies concerned and may be deducted from the imports which China had to meet by exports.

Description.	Value.	
	Hk. taels.	
Net imports, market value	264,748,456	$188,103,778
Deduct import duty	6,656,623	4,729,531
Deduct opium duty	6,528,550	4,638,535
Total duty	13,185,173	9,368,066
Imports, less duty, etc	251,563,283	178,735,712
Deduct 7 per cent for charges, etc	17,609,430	12,511,500
Imports, value at moment of landing	233,953,853	166,224,212
Exports to foreign countries, market value	195,784,832	139,105,123
Add duty estimated at	6,162,386	4,378,375
Add 8 per cent on market value for charges, etc	15,662,786	11,128,409
Exports, value at moment of shipment	217,610,004	154,613,907

In his report on the commerce of Chungking for 1899,† Consul Smithers gives additional details in regard to Chinese trade. The returns for the past year, he says, make the best showing since the opening of the port to foreign trade and residence in 1891. Mr. Smithers adds:

Under the head of cotton goods, American drills show a large increase in the quantity imported. The rise was something in the neighborhood of 700 per cent. While the quantity imported during the period under review can not be said to be at all large (about 30,000 pieces), the increase over the previous two years has been such as to warrant a still further gain in the years to come. I am of the opinion the Chinese would patronize our piece goods to a larger extent than they do, if more favorable terms could be insured in the matter of payments—longer credits, etc.

* See footnote, p. 465.

† Received too late for publication in Commercial Relations, 1899.

Steam communication with the port of Ichang appears to be assured, from what I can learn. A steamer brought in sections from England is being put together in Shanghai, and is expected to reach this port some time in May. Her length is 180 feet and draft 6 feet. Her carrying capacity will not be large, the intention being to take the bulk of the cargo in tow. She will have accommodations for twelve cabin passengers. Should this venture prove successful, it will not be long before other steamers will be built for this service.

UNITED STATES TRADE IN CHINA.

Consul Fowler sends from Chefoo, May 7, 1900, copy of the report on Chinese trade in 1899 by Mr. Taylor, statistical secretary of customs. This report (transmitted by Consul-General Goodnow of Shanghai) has already been printed in ADVANCE SHEETS No. 744 (June 1, 1900).*

Mr. Fowler adds:

The following, I trust, will be of interest to those who study our trade in China:

Value of foreign trade and customs revenue of China.

Year.	Foreign trade.		Customs revenue.	
	Hk. taels.		*Hk. taels.*	
1885	153,205,729	$211,423,394	14,472,766	$19,972,445
1897	366,329,983	270,737,857	22,742,104	16,806,415
1898	368,616,483	254,019,839	22,503,397	15,617,357
1899	460,533,288	330,824,224	26,661,460	19,209,582

The average value of the haikwan tael, as estimated by the Director of the United States Mint, was, in 1896, 81.1 cents; in 1897, 73.9 cents; in 1898, 69.4 cents; and in 1899, 72.05 cents. These values must be borne in mind in the following comparisons:†

Value of trade by countries in 1899.

Country.	Imports.		Exports.		Total.	
	Hk. taels.		*Hk. taels.*		*Hk. taels.*	
United States	22,288,745	$16,059,041	21,685,715	$15,624,558	43,974,460	$31,683,599
Great Britain	40,161,115	28,936,083	13,962,547	10,060,014	54,123,662	38,996,097
Continent of Europe, including all the Russias	13,694,802	9,867,105	55,320,492	39,858,414	69,015,294	49,725,519
Japan, excluding Formosa	31,414,362	22,634,048	16,384,271	11,804,867	47,798,633	34,438,915
Hongkong	118,096,208	85,088,318	71,845,558	51,764,725	189,941,766	136,853,043
Formosa	4,482,383	3,229,557	666,873	480,482	5,149,256	3,710,039
India	31,911,214	22,992,030	1,731,498	1,247,544	33,642,712	24,239,574
All the rest of the world	11,767,236	8,478,293	13,951,872	10,052,323	25,719,108	18,530,616

*See preceding report. †The haikwan tael was worth $1.38 in 1885.

Value of import trade in calendar years 1898 and 1899.

Country.		1898.	1899.	Decrease.	Increase.
United States	haikwan taels...	17,163,312	22,288,745	.....	5,125,433
	dollars.....	11,911,339	16,059,041	.....	4,147,702
Great Britain	haikwan taels...	34,962,474	40,161,115	.....	5,198,641
	dollars.....	24,263,957	28,936,083	.....	4,672,146
Continent of Europe, including all Russia, European and Asiatic...	haikwan taels...	11,151,880	13,694,802	.....	2,543,022
	dollars.....	7,739,405	9,867,105	.....	2,127,700
Japan, excluding Formosa	haikwan taels...	22,581,810	31,414,362	.....	8,832,552
	dollars.....	15,671,778	22,634,048	.....	6,962,270
Hongkong	haikwan taels...	97,214,027	118,096,208	.....	20,882,181
	dollars.....	67,466,526	88,088,318	.....	17,621,792
Formosa	haikwan taels...	4,794,251	4,482,383	311,868	.....
	dollars.....	3,328,210	3,229,557	98,653	.....
India	haikwan taels...	19,135,546	31,911,214	.....	12,775,668
	dollars.....	13,280,069	22,992,030	.....	9,711,961
All the rest of the world	haikwan taels...	13,106,690	11,767,236	1,339,454	.....
	dollars.....	9,096,043	8,478,294	617,749	.....

In 1898, the United States was the only non-Asiatic division that showed gains over the previous year. In the above table, it is seen that the only losses are under "Formosa" and "All the rest of the world."

The gains made by the United States and Great Britain are nearly the same (the latter division exceeding our figures by 73,208 taels); but in reality our gains are much greater, for we send vast quantities of merchandise to China via London which are credited as imports from Great Britain, and this is also the case to a great extent with continental European exports.

To show how our trade is increasing, I append the following:

Value of imports for years 1896 and 1899.

Country.	1896.	1899.	Decrease.	Increase.
	Hk. taels.	*Hk. taels.*	*Hk. taels.*	*Hk. taels.*
United States	11,929,853	22,288,745	.....	10,358,892
Great Britain	44,571,387	40,161,115	4,410,272	.....
Continent of Europe, including all Russia, European and Asiatic	11,661,114	13,694,802	.....	2,033,688
Japan, excluding Formosa	11,568,671	31,414,362	.....	20,845,691
Hongkong	91,356,530	118,096,208	.....	26,739,678
Formosa	5,821,452	4,482,383	1,339,069	.....
India	23,027,056	31,911,214	.....	8,884,158
All the rest of the world	11,464,106	11,767,236	.....	303,130

Thus, in four years we have doubled our sales to China, Great Britain fell off 4,000,000 taels, and Japan's increase was twice as great as ours. It is seen that in 1896 our sales exceeded Japan's by 361,182 taels; in 1899 Japan led us by 8,125,617 taels. On the other hand, Great Britain's best year was in 1896, and Japan and the United States reached their highest figures last year.

In 1897, the value of our sales to China exceeded those of all

continental Europe, including all the Russias (European and Asiatic), by $320,281; in 1898, this excess had increased to $4,171,934, and in 1899 to $6,191,936. Great as this excess is, it is not all, for large quantities of our goods now come into North China via Japan and Hongkong. Under "All the rest of the world," I have, as in previous reports, included Singapore and Straits, Australia, New Zealand, etc.; South Africa, including Mauritius; British America, South and Central America, Macao, Philippines, Cochin China, Tonkin and Anam, Siam, Java and Sumatra, Turkey in Asia, Persia, Egypt, Algeria, Aden, etc.; and Korea.

The values of imports of non-Asiatic countries were, in 1899:

Country.	Value.	
	Hk. taels.	
United States	22,288,745	$16,288,745
Great Britain	40,161,115	28,936,083
Australia	272,553	196,375
British America	1,208,865	870,787
Europe, excluding Russia	10,172,398	7,328,410
Russia, European	3,233,239	2,327,548
Total	77,336,915	55,947,948

Five-sixths of the whole is from British and American territory, and more than half from Great Britain alone.

The following table shows the value of imports classified as American for the years 1898 and 1899:

Description.		1898.	1899.	Decrease.	Increase.
Drills	haikwan taels	3,625,229	4,216,004		590,775
	dollars	2,515,909	3,037,631		521,721
Jeans	haikwan taels	211,796	272,745		60,949
	dollars	146,986	196,513		49,527
Sheetings	haikwan taels	6,219,315	9,610,090		3,390,775
	dollars	4,316,205	6,924,070		2,607,865
Flour	haikwan taels	1,774,712	3,189,497		1,414,785
	dollars	1,231,650	2,298,033		1,066,388
Oil, kerosene	haikwan taels	6,797,922	6,501,789	296,133	
	dollars	4,717,978	4,684,539	33,439	
Total, net	haikwan taels	18,628,974	23,790,125		5,161,151
	dollars	12,928,798	17,140,786		4,211,988

The annual value of our trade as given in customs tables and the value of those goods classified as American are:

Description.	1898.	1899.	Increase.
Classified as American	$12,928,798	$17,140,786	$4,211,988
Total as given by customs	11,911,339	16,059,041	4,147,702
Excess value*	1,017,459	1,081,745	

* Of only five classes of American merchandise, over the total value of imports credited from United States.

This shows that the discrepancy is increasing each year. A discrepancy of over $1,000,000 gold is a pretty large item, especially when we know that other lines of imports from the United States are increasing in the same proportion as those indicated above. For instance, last week, when on the customs jetty, I counted 80 barrels of nails (8,000 pounds), all marked with the name of a New York manufacturer; and 5 large cases of cigarettes, each case containing 500 boxes, from Richmond, Va. There were tier after tier of cases of condensed milk. One firm now imports regularly 500 cases each month; another recently imported 1,500 cases—4 dozen tins in each case—and still another firm bought a carload. I saw canton flannel (20 large boxes from Boston), several bicycles, cases of clocks, sewing machines, household stores, canned provisions, and 6 windmills from Chicago. These goods, coming to Chefoo in a British ship from the British colony of Hongkong, are credited to that flag. I have frequently mentioned this peculiar method of setting forth trade returns, and am glad to see that the American Association has taken the matter up.

In 1895, Great Britain sold five times what we did; in 1898, more than twice as much; in 1899, the proportion was still more favorable to us.

The difference is marked by this comparison:

Value of imports.

Country.	1892.	1899.	Increase.
	Hk. taels.	*Hk. taels.*	*Hk. taels.*
United States	6,061,900	22,288,745	16,226,845
Great Britain	28,870,150	40,161,115	11,280,965
Japan	6,702,302	31,414,362	24,711,060

The following shows our trade balance for five years:

Year.	Imports.	Exports.	Excess imports.	Excess exports.
	Hk. taels.	*Hk. taels.*	*Hk. taels.*	*Hk. taels.*
1895	5,093,182	15,383,402	.....	10,290,220
1896	11,929,853	11,123,599	806,254	.....
1897	12,440,302	17,828,406	.....	5,384,104
1898	17,163,312	11,986,771	5,176,541	.....
1899	22,288,745	21,085,715	1,203,030	.....

In 1897, the balance against us was 5,384,104 taels ($3,978,853); in 1898, it turned to our favor for 5,176,541 taels ($3,592,519); and last year we still led by 1,203,030 taels ($866,783), in spite of the fact that we bought nearly ten millions more of China than in the previous year, and almost twice as much as did Great Britain.

Imports of all merchandise which expressly names the country of origin, for the twelve months ended December 31, 1898, and for the same period of 1899.

Description.	1898.	1899.	Decrease.	Increase.
Shirtings, Japanese....pieces...	5,732	8,630	.....	2,898
T cloths:				
Japanese....do.....	103,663	242,652	.....	138,989
Indian....do.....	83,852	83,937	.....	85
Drills:				
English....do.....	73,356	78,887	.....	5,531
Indian....do.....	2,078	4,460	.....	2,382
Dutch....do.....	18,318	40,170	.....	21,852
American....do.....	1,314,761	1,626,107	.....	311,346
Japanese....do.....	1,065	9,577	.....	8,512
Jeans:				
English....do.....	123,599	76,016	47,583	.....
Dutch....do.....	38,745	30,690	7,785	.....
American....do.....	105,759	126,303	.....	20,544
Sheetings:				
English....do.....	523,366	763,762	.....	240,396
Indian....do.....	16,520	40,532	.....	24,012
Dutch....do.....	.....	45	.....	45
American....do.....	2,483,991	3,975,903	.....	1,491,912
Japanese....do.....	6,601	31,820	.....	25,219
Handkerchiefs, Japanese....dozens...	17,745	21,739	.....	3,994
Towels, Japanese....do.....	191,945	209,062	.....	17,117
Cotton flannel, Japanese....pieces...	56,835	176,676	.....	119,841
Cotton cloth, Japanese....do.....	151,329	181,016	.....	29,687
Cotton crape, Japanese....do.....	44,462	73,069	.....	28,607
Cotton yarn:				
English....pounds...	9,812,000	7,827,066	1,984,934	.....
Indian....do.....	186,657,333	254,190,133	.....	67,532,800
Japanese....do.....	74,699,200	103,960,000	.....	29,260,800
Camlets:				
English....pieces...	46,162	61,968	.....	15,806
Dutch....do.....	76	125	.....	49
Matches, Japanese....gross...	11,073,025	11,009,321	63,704	.....
Oil, kerosene:				
American....gallons...	50,084,015	40,724,989	9,359,026	.....
Russian....do.....	19,926,246	30,695,116	.....	15,768,810
Sumatran....do.....	26,871,865	11,993,202	14,878,663	.....
Umbrellas, Japanese....pairs...	544,691	602,746	.....	58,005

English and Dutch jeans lost ground, English cotton yarns declined nearly 2,000,000 pounds, Japanese matches fell off 63,704 gross, while the only gain in oil is credited to Russia—15,768,810 gallons—our oil losing 9,359,026 gallons from 1898; but as the American oil people imported large quantities of the rival oil, this fact no doubt explains our loss and Russia's gain.

The American oil trade in China is losing ground, and will continue to do so, in the opinion of those conversant with the trade, as long as the present method of handling it is carried on. With the exception of this port, the trade is represented by aliens.

It is a fact that Chinese merchants buy American oil in Shanghai that has paid higher freight rates to that port than the same oil pays to this port from New York and sell it cheaper here than the company can sell the oil landed direct from New York. That is to say,

American oil sent from New York to Shanghai at higher freights is bought of the Shanghai office, brought here and offered for sale, after paying additional freight to Chefoo, at a cheaper figure than the same oil which comes direct to Chefoo.

Another thing that is hurting this trade is the adulteration, as the subjoined letter shows:

WEIHSIEN, SHANTUNG, CHINA, *March 26, 1900.*

Hon. JOHN FOWLER,
United States Consul, Chefoo.

DEAR SIR: There is a matter of commercial importance to which I must call attention, though perhaps you may have already taken cognizance of it. I refer to the widespread and increasing evil of watered kerosene oil. We hear of this practice on all sides, and even we foreigners, who pride ourselves on our ability to detect such a trick, have of late been unable to discover how the tins are opened. So skillful has one local tinner become in opening a seam for the admission of water and afterwards closing it against detection that he is giving his whole time to this work (for native firms, of course), and at great profit. Not only is this fraud making it difficult for us to secure pure oil, but I notice it is rapidly bringing "foreign oil" into ill repute, for the idea is spreading that the watering of the oil is done by the Americans and Russians before it comes to China. The evil consequences of such a report are easily foreseen. If you feel it worth while, will you notify American exporters of oil to devise some form of can that will be more difficult to open without detection? Possibly, a seal over the seams might afford a chance of distinguishing cans that have been tampered with.

Yours respectively,

F. H. CHALFANT.

In the northwestern part of this province and southern Chihli, the natives are now very much excited over a rumor that American oil tins contain evil spirits which bring destruction and disease upon the land.

Up to last year, speaking generally, kerosene oil was our leading export to China—in fact, it represented one-third of the value of our entire exports—but in 1899, not only have our sheetings taken the lead, but the value ($6,924,570) of this item alone is greater than our entire trade for any year previous to 1896.

The total value of our cottons sold to China in 1899, according to the abstract, was as follows:

Articles.	Value.	
	Hk. taels.	
Drills	4,216,004	$3,037,631
Jeans	272,745	196,513
Sheetings	9,610,090	6,924,570
Total	14,098,839	10,158,714

This also shows that the cotton-goods trade represented not only more than half of our entire exports to China, but that China bought more than half of our entire sales of cotton cloths to the whole

world. But both estimates are under the mark, as neither includes the exports received via London and Hongkong, as well as Japan. The United States Treasury Summary of Finance and Commerce, December, 1899, gives the value of our exports to China for the calendar year 1899 as $15,225,294, while the Chinese customs figures are 22,288,745 haikwan taels (at 72.05 cents this equals $16,059,041). While this exceeds our figures by $833,747, I have shown above that only five lines of import classified as American exceeded the figures given for our entire trade by $1,081,745.

If we take the values of exports as given by the United States Treasury returns and by the Chinese customs we find the following for our trade in China in 1899. For sake of comparison, I omit the haikwan tael, giving only the gold value at 72.05 cents in the column of Chinese returns.

Imports into China, calendar year 1899.

Articles.	Value according to United States Treasury.	Value according to Chinese customs.	Correct value.
Agricultural tools and parts of	$231	.....	$241
Animals	250	.....	250
Art works	68	.....	68
Asbestus	1,440	.....	1,440
Babbitt metal	2,700	.....	2,700
Blacking:			
Stove	229	.....	229
All other	715	.....	715
Books, maps, etc.	29,448	.....	29,448
Brass and manufactures of	5,553	.....	5,553
Breadstuffs:			
Bread and biscuits	6,192	.....	6,192
Oats	378	.....	378
Wheat flour	105,200	$2,298,133	2,298,133
Preparations for table	3,268	.....	3,268
All other	6,801	.....	6,801
Brooms	1,003	.....	1,003
Candles	5,898	.....	5,898
Cars for steam railways	9,825	.....	9,898
Cycles and parts of	26,180	.....	26,180
Other carriages	967	.....	967
Chemicals:			
Acids	759	.....	759
Ginseng	21,635	.....	21,635
Medicines	11,773	.....	11,773
Other	19,489	.....	19,489
Clocks, etc	12,198	.....	12,198
Watches, etc	4,501	.....	4,501
Coffee and cocoa	861	.....	861
Copper	247	.....	247
Cotton:			
Unmanufactured	131,734	.....	131,734
Cloth	9,823,253	10,158,714	10,158,714
Clothing, etc	21,312	.....	21,312
Dental goods	219	.....	219
Twine	190	.....	190
Earthen and china ware	293	.....	293

Imports into China, calendar year 1899—Continued.

Articles.	Value according to United States Treasury.	Value according to Chinese customs.	Correct value.
All other fibers	$1,875	.....	$1,875
Fish, all kinds	4,611	.....	4,611
Fruits and nuts	23,761	.....	23,761
Furniture of metal	62	.....	62
Glass	2,503	.....	2,503
Grease, etc	340	.....	340
Cartridges, etc	22,216	.....	22,216
Hair	29	.....	29
Hay	104	.....	104
Honey	130	.....	130
Hops	1,400	.....	1,400
Household goods and personal effects	13,873	.....	13,873
India rubber:			
Boots	460	.....	460
Other goods	2,763	.....	2,763
Ink, printers' and other	1,360	.....	1,360
Scientific instruments	34,135	.....	34,135
Iron and steel:			
Pig	8,025	.....	8,025
Scrap	52,181	.....	52,181
Bar	20,453	.....	20,453
Rods	775	.....	775
Structural	45,642	.....	45,642
Wire	461	.....	461
Car wheels	1,250	.....	1,250
Castings	1,037	.....	1,037
Cutlery	660	.....	660
Locks, hinges, etc	23,800	.....	23,800
Machinery:			
Electrical	17,548	.....	17,548
Metal working	893	.....	893
Printing presses	470	.....	470
Pumps, etc	24,557	.....	24,557
Sewing	4,544	.....	4,544
Engines:			
Locomotives	732,212	.....	732,212
Stationary	8,411	.....	8,411
Parts of boilers	71,784	.....	71,784
All other	108,968	.....	108,968
Typewriters and parts of	5,799	.....	5,799
Nails and spikes:			
Cut	8,518	.....	8,518
Wire	42,180	.....	42,180
All other	3,565	.....	3,565
Pipes and fittings	73,911	.....	73,911
Safes	3,693	.....	3,693
Saws and tools	31,885	.....	31,885
Scales and balances	9,490	.....	9,490
Stoves and ranges	11,417	.....	11,417
All other manufactures of iron and steel	66,112	.....	66,112
Jewelry	1,267	.....	1,267
Lamps, etc	5,658	.....	5,658
Lead, etc	562	.....	562
Leather and manufactures of:			
Sole	8,473	.....	8,473
Other	461	.....	461
Boots and shoes	1,578	.....	1,578
Harness and saddles	1,236	.....	1,236
All other	1,593	.....	1,593

Imports into China, calendar year 1899—Continued.

Articles.	Value according to United States Treasury.	Value according to Chinese customs.	Correct value.
Malt	$3,411		$3,411
Malt liquor, in bottles	95,353		95,353
Marble	175		175
Musical instruments:			
Organs	6,458		6,458
Pianofortes	1,322		1,322
All other	208		208
Rosin	4,725		4,725
Tar	283		283
Turpentine and pitch	935		935
Turpentine, spirits of	8,289		8,289
Lotions, not elsewhere specified	969		969
Oakum	1,204		1,204
Oils:			
Mineral	150		150
Illuminating	1,791,108	$4,684,539	4,684,539
Lubricating and paraffin	25,307		25,307
Vegetable	3,099		3,099
Paper and manufactures of:			
Paper hangings	34		34
Printing paper	10,194		10,194
Writing paper and envelopes	160		160
All other	10,694		10,694
Paraffin and wax	100		100
Perfumery and cosmetics	19,252		19,252
Photographic materials	426		426
Plated ware	903		903
Provisions:			
Beef—			
Canned	16,814		16,814
Salted	40		40
Bacon	7,532		7,532
Hams	13,127		13,127
Pork	40		40
Lard	5,573		5,573
All other meat products	2,661		2,661
Oleo (imitation butter)	1,630		1,630
Butter	5,159		5,159
Cheese	11,161		11,161
Milk	29,761		29,761
Salt	55		55
Seeds	616		616
Silk, manufactures of	5		5
Soap:			
Toilet or fancy	1,584		1,584
Other	19		19
Spirits, distilled:			
Brandy	329		329
Rum	337		337
Whisky—			
Bourbon	3,812		3,812
Rye	12		12
Other	447		447
Starch	139		139
Stationery, except of paper	3,021		3,021
Stereotype and electrotype plates	505		505
Straw and palm leaf, manufactures of	92		92
Sugar	155		155

Imports into China, calendar year 1899—Continued.

Articles.	Value according to United States Treasury.	Value according to Chinese customs.	Correct value.
Candy and confectionery	$433	.....	$433
Tin, manufactures of	552	.....	552
Tobacco:			
Leaf	35,899	.....	35,899
Cigars	353	.....	353
Cigarettes	305,841	.....	305,841
Plug	13,498	.....	13,498
Other	2,879	.....	2,879
Toys	681	.....	681
Trunks, valises, and bags	402	.....	402
Varnish	144	.....	144
Timber, sawed	35,754	.....	35,754
Lumber:			
Boards, deals, and planks	132,152	.....	132,152
Joists	6,393	.....	6,393
All other	6,914	.....	6,914
Wood, manufactures of:			
Doors, sashes, and blinds	651	.....	651
Furniture not elsewhere specified	10,003	.....	10,003
Wooden ware	97	.....	97
All other	2,589	.....	2,589
Wool:			
Carpets	233	.....	233
Flannels and blankets	1,500	.....	1,500
Wearing apparel	449	.....	449
All other	60	.....	60
All other articles	233	.....	233
Total	14,437,422	.....	19,857,647
Total value as credited by Chinese customs to United States under annual value of trade known to be United States	.....	.....	16,059,041
Value of United States imports into China credited to other countries, nearly all British	.....	.....	3,798,606

The following table shows the value of our flour and oil coming into China via Hongkong, credited to that colony as British trade:

Articles.	United States Treasury returns.	Chinese customs returns.	Difference, *i. e.*, coming from Hongkong.
Flour	$105,200	$2,298,133	$2,193,933
Oil, kerosene	1,791,108	4,684,539	2,893,431
Total	1,896,308	6,982,672	5,085,364

This proves that China received flour and oil valued at over $5,000,000 gold from Hongkong, and justifies the statements that I have repeatedly made—that our trade is underestimated by at least one-third.

According to our Treasury figures, the value of our imports from

China in 1899 was $24,196,476, and of our exports $15,225,294; total, $39,241,770. Reduced to haikwan taels at 72.05 cents, this equals 54,714,461, while the Chinese customs gives them at 43,374,460 taels.

DIRECT TRADE WITH NORTH CHINA.

In nearly all of my reports, I have urged that our merchants ship direct, and in my report published in ADVANCE SHEETS No. 468 (July 5, 1899), pages 12, 13, and 14,* I went into details. The letter from Messrs. Cornabé, Eckford & Co., requesting to be placed in communication with our cotton men, with a view to direct shipments, elicited but one reply—from South Carolina—and negotiations are now in progress which I hope will culminate in inaugurating this simpler and cheaper method.

I again urge our merchants to study this point. There is no reason why goods for northern China from the United States should travel thousands of miles unnecessarily. Merchants in the United States not knowing China should have on their desks a map of North America and Asia, with sailing routes; a directory of China, or, as it is called here, hong list (the one for all Asia, including China, Japan, Straits Settlements, Siam, Philippines, etc., is the chronicle and directory); and the latest United States Postal Guide, with the page for "Postal agency, Shanghai," marked for immediate reference. With the aid of these they may know better than to send mail or goods to Chefoo via Hongkong.

All the trans-Pacific lines stop at Kobé, and most, if not all, of them at Nagasaki, on their way to and from Shanghai or Hongkong. From Japanese ports, there are regular lines of fast steamers to Chefoo, Tientsin, and Niuchwang.

Until the last year or two, everything shipped to Hongkong for northern China was put on board coasting vessels for Shanghai, where it was again transshipped for the port of destination. An exception is now made with flour. The trade in that commodity has reached such proportions that it is shipped direct from Hongkong to Chefoo.

During the past year, I have given the subject of freight some attention, in the hope of inducing more direct trade, with consequent cheaper rates. The sailing distances, as shown hereunder, all show the advantage in time and distance that would accrue by transshipping cargo for Niuchwang, Port Arthur, Talienwan, Tientsin, Chefoo, Weihaiwei, and Kyao-chau at Kobé, Japan.

Distances.

	Miles.
Kobé to Hongkong via mail route	1,458
Hongkong to Chefoo	1,416
Thus our flour for Chefoo now travels, after arriving at Kobé	2,874

*See also CONSULAR REPORTS No. 228 (September, 1899).

By transshipping the flour at Kobé for Chefoo, it would travel: Kobé to Chefoo, via mail route, 1,100 miles; thus effecting a saving in distance of more than half, or 1,774 miles. Merchandise shipped via Shanghai makes the voyage beyond Kobé:

	Miles.
Kobé, via mail route to Shanghai	857
Shanghai to Chefoo	510
Total distance after leaving Kobé	1,367
If sent via Kobé	1,100
Distance saved	267

But in Shanghai there are many extra expenses, which make a shipment via that port much more costly than by the more distant port of Hongkong. For instance, the ship must pay at Shanghai a tonnage tax equal to nearly 20 cents per ton, besides the expenses detailed in my last report on this subject,* while at Hongkong the only tax is about $4 Mexican ($1.89).

Freight from Hongkong averages about $4 Mexican per ton, while from Kobé to Chefoo it averages $3 Mexican ($1.41) per ton, but is often as low as $2 Mexican (94 cents) per ton.

A firm in California wrote to me last year to help it engage in trade. After considerable correspondence, a first-class house here cabled February 22 for 50 tons of flour as per sample, to be shipped via Kobé. Nothing was heard until a week ago, when I learn that the managers had sent "something just as good if not better," and gave rates of freight, etc., via Hongkong at $9.50 gold per ton. The firm here had arranged for a freight rate to Kobé for $6 gold per ton, and not to exceed $2 gold per ton thence to Chefoo direct. Half of the order was also sent on freight steamer, leaving the Chefoo merchant to run the risk of losing his customers.

At the same time, this firm sent another order to a different house in California. Result: Flour sent as per order on mail steamer, finding that the Chefoo parties are right in asking for transshipment at Kobé, as it is cheaper; through freight California to Chefoo via Kobé, $7.75 per ton; thus, at last initiating a direct trade.

Another order has gone forward for 15,000 bags, and I hope to be able to report rapid progress in this trade.

Many of our merchants, when filling orders, deliver the merchandise to others for forwarding. A Japanese barber bought two barber chairs in New York. He paid cash $37 for the two and had to meet a draft for $18.90 for brokerage and freight via Suez. Had the manufacturer himself taken the trouble to ship his chairs, the barber

* See CONSULAR REPORTS No. 228 (September, 1899); ADVANCE SHEETS No. 468 (July 5, 1899).

would have saved at least $10 gold—a considerable item, for his monthly receipts do not, I suppose, exceed $20 Mexican.

Another merchant showed me an invoice of clocks; the broker's bills made them cost as much again as the original price.

A milk firm insisted on shipping from the Middle West via New York, although the merchant here begged him to send via California direct to Chefoo; the rates were so high that nearly all the profit was lost, and California men entered the field and undersold him.

Here are some of the rates given me by a Chicago house:

From and to—	Per ton.		Minimum for small shipments.
	s. d.		
New York to Chefoo	50 0	$12.16	$15.00
New York to Kobé	30 6	7.29	7.50
Difference between Kobé and Chefoo	19 6	4.87	7.50

The above is for through rates; now if shipments were made via that route to Kobé and thence here by local rates, or $4 Mexican (say 8s.), 11s. 6d. ($3 gold) per ton would be saved, and probably more.

	Per ton.
Rates from Seattle to Chefoo	$11
Rates from Seattle to Kobé	8
Difference	3

Local rates never exceed $2. Thus, shipments to Kobé and thence to Chefoo would save at least $1 per ton. The rates per ton to Hongkong are the same.

Rates from San Francisco to Chefoo via Kobé	$7.75
Rates from San Francisco to Hongkong	6.00
Rates from San Diego to Hongkong	6.00
Rates from Hongkong to Chefoo	3.50

Flour now sent via Hongkong pays from $1 to $3.50 gold more per ton than if sent to Chefoo via Kobé.

FLOUR TRADE.

In ADVANCE SHEETS No. 292 (December 7, 1898),* I said:

The value of American flour imported (into Chefoo) during this period (January–June, 1898) was greater than for the combined years of 1894, 1895, 1896, and 1897.

*See also CONSULAR REPORTS No. 221 (February, 1899).

The value of American flour imported into all China in 1898 and 1899 was:

Year.	Value.	
	Hk. taels.	
1899	3,189,497	$2,298,033
1898	1,774,712	1,231,650
Increase	1,414,785	1,066,383

The increase for 1899 almost equals the sales for 1898. A careful examination of the quarterly returns for 1899 fails to show flour under any of the ports excepting Chefoo; but by adding the returns, I am able to present the following for Chefoo:

American flour imported into Chefoo.

Year.	Value.	Year.	Value.
1894	$8,186.62	1897	$7,197.58
1895	20,130.22	1898	75,810.92
1896	7,706.12	1899	260,176.15

Thus we sold in Chefoo more than twice as much flour in 1899 as in the five previous years combined, and immense quantities also entered via Kyao-chau, Weihaiwei, and Tientsin.

Japanese photographers now include in their albums views of the mountains of snowy flour on the customs jetty, when a flour boat comes from Hongkong.

For the first quarter of this year, Chefoo received flour to the value of 46,313 haikwan taels (more than the entire value for 1894, 1895, 1896, and 1897), and there are besides 68,000 bags from California almost due.

Northern China is rapidly becoming Americanized, so far as imports are concerned. Our cotton-trade figures show rapid increases.

Net value of foreign imports by ports.

Port.	1897.		1899.		Decrease.	Increase.
	*Hk. taels.**		*Hk. taels.**		*Hk. taels.*	*Hk. taels.*
Niuchwang	8,995,929	$6,647,992	21,775,930	$15,689,558		12,780,001
Tientsin	30,212,260	22,326,860	39,279,788	28,301,087		9,067,528
Chefoo	11,066,410	8,178,097	12,270,893	8,841,178		1,204,483
Kyao-chau			219,531	158,172		219,531
Chungking	8,443,947	6,240,077	13,075,176	9,420,664		4,631,229
Ichang	647,902	478,800	1,589,757	1,145,420		941,855
Shahsi	48,428	35,788	74,251	53,498		25,823
Hankau	17,172,351	12,690,367	22,666,827	16,331,449		4,494,476
Kiukiang	6,563,311	4,850,287	7,924,471	5,709,581		1,361,160
Wuhu	3,700,373	2,734,576	6,945,668	5,004,354		3,245,295

*The value of the haikwan tael for 1897 was 73.9 cents; for 1899, 72.05 cents.

Net value of foreign imports by ports—Continued.

Port.	1897.		1899.		Decrease.	Increase.
	Hk. taels.		*Hk. taels.*		*Hk. taels.*	*Hk. taels.*
Nankin	.....	.....	619,333	$44€,229	.....	619,333
Chinkiang	13,285,419	$9,817,925	14,655,821	10,559,519	.....	1,370,402
Shanghai	31,725,393	23,445,065	38,823,995	27,972,688	.....	7,098,602
Soochow	921,034	680,644	359,134	258,756	561,900	.....
Ningpo	8,990,251	6,643,795	9,208,444	6,634,683	.....	218,193
Hangchow	1,259,544	930,803	2,736,032	1,971,311	.....	1,476,488
Wenchow	722,040	533,588	849,645	612,169	.....	127,600
Fuchau	5,196,884	3,840,497	6,800,960	4,899,092	.....	1,604,076
Amoy	7,285,683	5,384,120	9,938,204	7,160,476	.....	2,652,521
Swatow	9,653,938	7,134,260	13,698,435	9,869,722	.....	4,044,497
Wuchow	1,392,415	1,028,995	4,097,510	2,952,256	.....	2,705,095
Samshui	37,759	27,904	3,322,447	2,393,823	.....	2,270,688
Kongmun and Kumchuk	170,452	125,964	1,432,144	1,031,859	.....	1,261,692
Canton	13,770,036	10,176,057	13,889,687	10,007,519	.....	119,651
Kiungchow	1,461,940	1,080,374	2,432,473	1,032,097	.....	970,533
Pakhoi	2,656,724	1,963,319	2,443,364	1,760,444	213,360	.....
Net foreign imports	185,380,423	136,996,133	249,132,190	179,499,743	.....	.....
Net increase over 1897	.....	.....	.....	.....	.....	63,751,767
Increase in northern China (Tientsin, Niuchwang, Chefoo, Kyao-chau)	.....	.....	.....	.....	.....	23,271,543
Balance of increase for rest of Empire	.....	.....	.....	.....	.....	40,480,224

This shows that over a third of the increase is due to the ports north of Shanghai, and that Niuchwang's increase of 12,780,001 taels is more than the entire value of the foreign imports received by that port in 1897. The increase is phenomenal; no doubt, it is due to the railways and mines in the region, employing thousands of coolies. It is estimated that 160,000 are at work on the Russian enterprises in Manchuria. Chefoo does not appear to have profited so much by this transit trade, but there are many reasons for this: Shantung has been the seat of an incipient rebellion, the crops have failed, millions are in distress, Germany's progress inland has been slow, and her enterprises do not seem to be well received by the natives. Probably, 100,000 coolies have left this province to work for Russians.

TRADE WITH RUSSIAN AND GERMAN CHINA.

United States Treasury returns for 1899 give the exports to German China (Tsintau) at $29,202; Russian China (Port Arthur), at $194,183.

While I have no details of the trade going into Talienwan and Port Arthur (Russian China), from what I have seen here and learned from merchants in business, it is safe to state that the above figures ($194,183) do not represent more than 5 per cent of the value of American exports to Russian territory here in 1899. There were two

ships loaded with lumber; another with flour, corn, and other merchandise; and another with machinery, railway material, etc. While writing this, a merchant just in from Port Arthur says that my estimate of 5 per cent is too low; he knows that over $4,000,000 was expended by Russia for American merchandise and material in 1899 for that territory, and he states that over $400,000 worth of lumber has been bought so far this year. For Kyao-chau (German China) one American ship has come with over 50,000 cases of oil, two sailing ships and one steamer from Oregon with lumber, and another discharged part of a cargo of flour in that port. The value of all this must have been over $500,000. Thus, while by the customs returns Chefoo does not appear quite so prosperous as some of the ports, it must be remembered that the trade has been curtailed, Russia, Germany, and Great Britain having all taken territory from this consular district.

EXPORTS.

The exports to the United States in 1897 were valued at 17,828,406 haikwan taels ($13,175,192); in 1898, 11,986,771 haikwan taels ($7,647,560); in 1899, 21,685,715 haikwan taels ($13,835,486)—an increase over 1897 of 3,857,309 haikwan taels, and of 10,698,944 haikwan taels over 1898. Thus, the United States, according to the Chinese returns, bought more of China in 1899 than any other country in the world, exceeding Great Britain's purchases (including those for us and Europe sent via England) by 7,723,168 haikwan taels. The purchases of all Europe exceeded those of the United States by only 15,077,791 taels, of which silk for France accounts for the lion's share.

In my report published in ADVANCE SHEETS No. 468 (July 5, 1899), after reviewing the import figures, I show that our purchases in 1898 fell in value 5,841,635 haikwan taels ($3,626,963) from 1897, and add: "No other country made nearly so large a decrease in its purchases from China." In 1899, no other country made such an increase in its purchases from China. The increase for the whole continent of Europe exceeded ours by only 35,000 haikwan taels, and our increase was ten times greater than Great Britain's for the same period.

In 1899, the direct exportations of tea to the United States were as follows:

Description.	Quantity.	
	Piculs.	*Pounds.*
Black	99,322	13,242,933
Green	119,184	15,891,200
Total	218,506	29,134,133

The exports of tea to all countries were 1,630,795 piculs (217,079,500 pounds), showing that our country bought more than one-eighth of the whole. We bought more than half of the green tea, being by far the largest purchasers of that kind, while the Russians purchased 416,267 piculs (55,488,391 pounds) of the entire exportation (850,073 piculs=113,314,721 pounds) of black tea.

SHIPPING.

I have seen but one merchant steamer under our flag (and she had no right to it) since I came to China in February, 1890—ten years ago—and it was seven years before I saw a sailer direct from the United States.

Entries and clearances at treaty ports.

Flag.	1898.	1899.	Decrease.	Increase.
	Number.	*Number.*	*Number.*	*Number.*
British	22,609	25,350	.....	2,741
German	1,831	2,078	.....	247
Japanese	2,262	3,712	.....	1,450
French	577	822	.....	245
Swedish and Norwegian	498	482	16	.....
Russian	118	484	.....	366
American	743	716	27	.....
Danish	268	22	246	.....
Austrian	16	18	.....	2
Korean	8	24	.....	16
Dutch	18	4	14	.....
Belgian	.....	10	.....	10
Nontreaty powers	23	8	15	.....
Italian	.....	4	.....	4
Spanish	2	14	.....	12
Portuguese	141	661	.....	520
Chinese	23,547	31,009	.....	7,462

Russia's gain is partly attributable to the substitution of the Russian flag for the Chinese on the Chinese Eastern Extension Railway steamers.

In the above list we stand sixth, while in tonnage we stand eighth. The total value of the foreign and coast trade (inwards and outwards) was 1,210,490,632 haikwan taels ($872,158,603), of which the American flag covered 5,756,978 haikwan taels ($4,147,903).

The total value of our imports (according to the customs) was 22,288,745 haikwan taels, of which American ships brought 2,487,751 haikwan taels, and the balance—19,800,994 haikwan taels—went to other flags.

The total value of the exports to United States (according to the customs) was 21,685,715 haikwan taels, of which our ships carried 2,271,879 haikwan taels, foreign ships taking 19,413,836 haikwan

taels. About one-fortieth of the foreign-carrying trade of China was under our flag, while more than half thereof was under the British flag. Germany did ten times better than the United States.

FORFIGNERS IN CHINA.

The following table shows the number of foreigners and firms in China, as registered at the consulates in the treaty ports:

Nationality.	Residents.				Firms.			
	1898.	1899.	De-crease.	In-crease.	1898.	1899.	De-crease.	In-crease.
American	2,056	2,335	.....	279	43	70	.....	27
British	5,148	5,562	.....	414	398	401	.....	3
German	1,043	1,134	.....	91	107	115	.....	8
French	920	1,183	.....	263	37	76	.....	39
Dutch	87	106	.....	19	8	9	.....	1
Danish	167	178	.....	11	3	4	.....	1
Spanish	395	448	.....	53	4	9	.....	5
Swedish and Norwegian	200	244	.....	44	.....	2	.....	2
Russian	165	1,621	.....	1,456	16	19	.....	3
Austrian	92	90	2	.....	5	5	.....	.....
Belgian	169	234	.....	65	9	9	.....	.....
Italian	141	124	17	.....	9	9	.....	.....
Japanese	1,694	2,440	.....	746	114	195	.....	81
Portuguese	1,084	1,423	.....	339	20	10	10	.....
Korean	40	42	.....	2	.....	.....	.....	.....
Nontreaty powers	27	29	.....	2	.....	.....	.....	.....
Total	13,421	17,193	.....	3,772	773	933	.....	160

It is seen by the above that Russia made the greatest gain in number of residents and Japan in number of firms, France coming next. These figures do not include the leased ports. It must be remembered that in the case of Great Britain a large number of Indians and Asiatics (Chinese born in Hongkong, the Straits, etc.) are included; so it is difficult to arrive at the true number of British in China. Moreover, by British law every British subject is compelled to register in his consulate; with us, it is optional. I believe that our numbers are greatly understated.

CORN.

After urging our people for several years to enter this field, I succeeded in getting just two parties to write to me from the United States. One of the parties offered to deliver corn to Kobé for 49¾ cents per bushel. I figured that at that rate it would cost, delivered here, not more than 56 cents per bushel; corn then was selling for about 65 cents gold per bushel. In December, I received a cable asking for quotations and, after careful investigation, wired back 55 cents gold; this was understood to include all charges to the harbor. Two days later, I got another wire, addressed "United

States Consul Fowler, Chefoo." (I had written that my name and Chefoo were sufficient; the words "United States consul" were superfluous, and cost the sender $10 gold.) As rates do not fluctuate here so rapidly as at home, I did not reply at once, and next day received another cable quoting 65 cents per bushel; this was too high. As the Chinese thought a poorer grade than No. 1 yellow would do, I cabled, December 21, for samples. In due course, I got a letter stating that our figures were too low, and if the market improved they would send a man out to investigate, nothing being said about the samples. There was nothing to investigate; my friends had done all that—they wanted to buy corn and were prepared to pay cash for it. On the 14th of April, I got a small package containing two samples of corn via London; freight paid, 3s. (73 cents). It required a customs permit to get it off the jetty; no letter of advice accompanied it, nor statement of prices. One sample weighed 1 pound 8 ounces; the other, 2 pounds. Had this firm possessed a United States Postal Guide, it would have seen that these two packages could have been sent as samples to Chefoo, via the United States postal agency at Shanghai, for 1 cent per 2 ounces, or for 12 and 16 cents, respectively, making a total of 28 cents; and I would have got them (if sent on receipt of my cable) about February 1, instead of having them arrive too late to be of use.

Every trade paper should publish the postal rates under "Shanghai" for the benefit of its patrons.

MISCELLANEOUS.

I am glad to note that the National Association of Manufacturers of the United States has opened a warehouse in Shanghai.

I am often asked what language must be used in sending out catalogues, etc.; some firms offer them in German, but more in Spanish. The commercial language of China, so far as foreign trade is concerned, is English. One must know either English or Chinese, or starve. In the ports, the trading Chinese all speak "pidgin" English, and most of them can read, and many write, our language. German, French, Russian—all must carry on their business in either English or Chinese. It is this that helps to keep up the prestige of Great Britain, for most Chinese imagine that Americans speak another tongue, and, like the Germans, French, and others, must learn English. I have been frequently told by Chinese that they "savee English; no savee American."

I can now see from my desk six modern Chinese men-of-war, all built in Germany or England. A large German corporation keeps a representative always in Pekin.

I am still waiting for trade papers and catalogues; very few come to me.

The Chinese use ladies' bicycles. Anything requiring directions to put together should be carefully illustrated, and orders should be strictly adhered to. Do not send "something just as good," but send what is ordered, and just as ordered.

A windmill recently arrived for some Chinese; none had ever been seen here before. The person who ordered it—a missionary—came to me for catalogues. I had only one, received from a Chicago factory several years ago. Many of the parts were wrong, entailing loss of time and annoyance. However, the word "Chicago" on the mill can now be seen a mile away.

Another person ordered certain double-tube bicycles. When they arrived, one was found to be a single-tube racer. He has had it a year in his store, as such a machine is useless here.

In making anything for the Chinese, strength and simplicity are the great requisites.

It is to be borne in mind that there are two distinct and widely different customers in the trade of China—the native and the foreigner.

In the list of imports quoted above from the United States Treasury report, there are a number of goods for foreign use only; for instance, art works, blacking, books, brooms, coffee and cocoa, honey, hops, scientific instruments, typewriters, safes, stoves, boots and shoes, harness and saddles, beer, musical instruments, butter (Chinese call it beef fat), spirits, toys, etc. It must also be remembered that a great part of the increase in other imports is due to the activity of foreigners in China.

WANTED.

The following requests have been made of me:

James McMullan, general stores, wishes "sweet condensed milk, first-class quality, at a price that will compete with the standards already in the market." He says:

> What I want is to get into touch with a manufacturer who makes a good, standard, uniform article which will compete with others in the market, who is willing to give control to a firm that will use its best efforts to forward the maker's interests.

Cornabé, Eckford & Co. desire connections with manufacturers of every kind—cottons, machinery, flour, corn. This house has branches at Port Arthur and Weihaiwei under the direct control of the Chefoo office. It is anxious to inaugurate a trade via Japan and is prepared to buy silk, straw braid, pongees, etc., for parties in the United States. It controls the largest filanda here.

Messrs. L. H. Smith & Co. are prepared to enter into business relations in all classes of imports; they have a branch at Port Arthur.

In order to answer many inquiries, I append a list of firms who either import from or export to the United States:

Head office Chefoo.

Anz & Co., Kyao-chau (Tsintau).
Cornabé, Eckford & Co., Port Arthur and Weihaiwei.
Fergusson & Co., Weihaiwei.
L. H. Smith & Co., Port Arthur.
Sardner & Co.
L. W. Singtai & Co., Port Arthur, Weihaiwei, and Tsintau.
Jas. McMullan.
H. Sietas & Co., Port Arthur and Tsintau.

Port Arthur.

Clarkson & Co., Vladivostock.
American Trading Company, head office New York.
Bismark & Co.
Chinese Eastern Railway Company, Limited; T. O. Sirchman, chief of division.
Chinese Eastern Railway Company, mining department; F. B. Peterson, engineer in chief.
Chinese Eastern Railway Company, seagoing steamship department; A. Bostelman, general manager.
Sinsburg & Co.
M. Haimovitch; musical instruments and furniture dealer.
Kunst & Albers.
Besides the Chefoo firms noted above.

Weihaiwei.

Lavers & Co.
T. C. Ramsey.
Besides the Chefoo firms noted above.

Tsintau (Kyao-chau).

& Co.

g & Co.
Co.; timber, sawmills, furniture, etc.

mpany; H. Hildebrand, chief engineer.
ip chandlers and merchants.
provisions, groceries, etc.
isions, groceries, etc.

RESOURCES OF SIBERIA.

An important conference was held in Lyons yesterday on the resources of Siberia and its possible competition with cereal-producing countries. The principal speaker was Mr. Emile du Marais, a civil engineer who has passed many years in Russia and is a member of the Russian section of the French bureau of foreign commerce. He said that 200,000 farmers arrive in Siberia annually, the Government providing them with free transportation and giving each family the free use of 15 hectares (37½ acres) of land for a stated time. The population of Siberia is now 8,000,000. Making a computation upon the basis of the population of Russia in Europe, Siberia is capable of sustaining a population of 80,000,000. The annual production of cereals in Siberia is 20,000,000 metric quintals (2,000,000 metric tons), 6,000,000 to 8,000,000 quintals of which are exported. The country can produce 10,000,000 tons annually, from 4,000,000 to 5,000,000 tons of which are subject to exportation. Siberia now exports butter to Denmark. It is estimated that she can export annually 80,000,000 francs' ($15,440,000) worth of butter, wool, leather, dried and preserved meats; and fish and tallow may figure conspicuously in her exports in the near future.

A movement is now in progress in the direction of forest preservation, the destruction having caused a scarcity of furs, blue fox and zibelines.

Siberia produces one-tenth of the world's yield of gold, and but few of the mines have been worked, on account of the climate. The immense coal deposits have hardly been touched. One mine, with six beds, contains as much coal as all the deposits in England. The lack of transportation facilities alone has prevented it from being worked.

The Trans-Siberian Railroad, from an economic and a political standpoint, is the greatest work of this century. It gives Russia a superior standing in Pekin. It now touches the Amur; in three years it will reach Port Arthur, making the distance but thirteen or fourteen days from Moscow to Pekin.

There is annually an excess of 1,500,000 births over deaths in Russia, and Siberia is the outlet for this overflow. The black lands of Siberia form an area of not less than 50,000,000 hectares (133,550,000 acres), but high freight rates are an obstacle to the arrival of their cereal products in France. The average freight rate on the Trans-Siberian is three-tenths of a cent per ton per kilometer (about

five-eighths of a mile). In France, the minimum rate is four-fifths of a cent per ton per kilometer.

French capitalists, added Mr. Marais, have invested a great deal of money in Russian railroads and various industries in that country. Since the date of these investments, the heavy imports from Russia and the meager exports from France to that country have been a cause of complaint among French capitalists. In return for something like $700,000,000 invested in Russia, they see Russian purchases made in the United States, England, and Germany, while France receives Russian products as dividends for her capital. Some remonstrances have been made to Russia, but the only answer has been a suggestion that France should reduce her heavy protective tariff on Russia's wheat.

JOHN C. COVERT,
Consul.

LYONS, *April 10, 1900.*

SIBERIAN MINING CONCESSION.

The following note has been received by the Department from the Russian embassy:

WASHINGTON, *May 1–14, 1900.*

Mr. SECRETARY OF STATE: The question of gold mining on the Russian Pacific coast has called forth numerous inquiries addressed both to the imperial embassy and to the Russian consulates in this country by citizens of the United States who are desirous of participating in the exploitation of the mineral wealth in Russian territory. Erroneous views have arisen in this connection which it is my duty, in the interest of our two Governments and for the prevention of any misunderstanding, to rectify.

The Imperial Government granted, under date of the 11th ultimo, the exclusive right to exploit the mineral wealth in the peninsula of Tchoukotsk to Colonel Vonliarliarsky, of the Russian Guards. This gentleman has organized an expedition, under the direction of Mr. Bogdanovitch, a mining engineer, which sailed from Russia April 18–May 1, for the peninsula of Tchoukotsk via the United States.

According to information which I have received from various quarters, numerous gold seekers propose to come from Alaska in the course of the year to the Russian territory to which the aforesaid Russian expedition is bound, which expedition, as I have already had the honor to inform Your Excellency, is alone authorized to carry on mining operations in the country.

In apprising you, Mr. Secretary of State, of the measure adopted by the Imperial Government, whereby the exclusive right to exploit the gold-bearing lands and others is conferred upon Colonel Vonliarliarsky, I have the honor to beg you to bring this measure to the notice of the United States authoritles that are interested, with a view to the avoidance of regrettable misunderstandings.

I have, etc.,

CT. CASSINI.

MINING INDUSTRY IN SIBERIA.

The fact that the Czar has ordered the suspension of the import duty on coal for use on the railways of Russia until September 1, 1900, has a special significance for the United States in view of the scarcity of coal, which now seems world wide, except in our country. It arouses, furthermore, an interest in the Siberian coal-mining industry, hitherto not sufficiently regarded. While some American coal has already been shipped to Japan and China, none has as yet come this way, and probably will not, owing to the greater demands nearer home.

Mining of all kinds in Siberia has hitherto been beset with so many difficulties as to discourage operators, native or foreign. The concession to an American—D. M. Clarkson—to mine for gold or coal on his own account, without the usual adjunct of a Russian partner, seems to point to a more liberal policy. Still, there are restrictions. Mr. Clarkson and Mr. Emery, the latter the pioneer American merchant of Siberia—who has also been granted special privilege by imperial rescript—can not enter into combination with any existing company nor operate any but new claims, and even then work must be done under disadvantages which would be hardly tolerable to ordinary American prospectors. For example, one must have special permits from local authorities for felling trees and constructing roads, and there are certain rules to be followed when minerals other than those specified in the grant—as copper, iron, etc.—are found.

The mineral wealth of this region has been for years practically untouched. Chinese have worked the auriferous sand on a small scale, and even now they are thrashing over the old material with minimum success. The complaint has been that there was no capital to develop the mineral deposits; yet, within four years, Belgian, English, French, and American experts have visited Siberia, examined the various districts, and advised the formation of companies for the exploitation of mines; but prudent foreign companies withheld the capital, mainly because of the governmental restrictions.

Good specimens of coal, anthracite and bituminous, are shown. There are excellent auriferous exhibits, and much small capital has been exhausted in simply discovering that there is mineral wealth. There is one coal mine at Nadishinsk, about 50 kilometers (31 miles) from Vladivostock, and only 20 kilometers (12.4 miles) from the Ussuri Railroad. The extent of this coal bed is 16 square kilometers (6.1 square miles), and it is semianthracite, excellent quality, smoke-

less. It has attracted the attention of the naval bureau as available for battle ships, and also for the naval works and factories here. When a French company tried to buy this mine and offered 750,000 francs ($144,750), 150,000 francs ($28,950) deposit was required. The French company retired. Recently, it is said, a half interest in this mine was sold for $60,000, and it is now being managed on strictly business principles, the original owner being allowed $4,000 per year to superintend the work.

There is another coal mine 24 versts (16 miles) from Vladivostock and 4 versts (2.6 miles) from the railroad, with a coal bed of 20 square kilometers (7.7 square miles). This coal is said to be suitable for steamships and in some respects superior to Japanese coal. The French company referred to tried to buy this mine also, but no agreement could be reached. The Frenchmen said the more anxious they were to close the deal, the higher rose the price. A number of other coal mines have been recently discovered. Even before the present famine, coal was expensive in Vladivostock, and it is now worth from $6 to $10 a ton. The market is good, on account of the number of steamers entering and departing. Coal is also used for heating purposes, as wood is growing scarcer every year. A Russian company owns the best-paying mine at St. Olga's Bay, about 180 kilometers (112 miles) from Vladivostock. Messrs. Clarkson & Co. own two good coal mines, which have been developed at much expense.

Several iron mines have been reported within two years. There is also said to be good iron at St. Olga, as well as lead and silver. Lead and zinc are frequently found. Copper is also plentiful in large, separate pieces and broken veins, but no serious attempts at surveys have been made.

An American mining engineer who has spent two years in Siberia is impressed with the mineral resources of all eastern Siberia, from Lake Baikal to the new diggings opposite Cape Nome, and also in Manchuria.

The quartz gold mines on Askold Island, near Vladivostock, are owned by a Russian firm and have been worked for two years with gratifying results. In 1897, the gold was first discovered; in 1898–99 prospecting was begun; in the spring and summer of 1899, 500 tons were extracted with poor machinery, the estimated value being $25,000. Some thirty-odd tunnels have been prepared, and the managers hope to obtain this year 3,000 tons of valuable quartz, worth perhaps $150,000, and about 9,000 tons of quartzite. They anticipate from the prospecting of 1900 some $50,000 to $75,000 clear profit. The gentlemen in charge of this mine are old residents, naturalized subjects, and cautious business men.

Either the announcement of the concessions to Messrs. Emery and Clarkson or the stories emanating from travelers in Siberia have caused many inquiries to be sent to this agency, as to the chances for mining in this locality. These inquiries come from Cape Nome, the Klondike, and the Pacific coast generally, and in most cases could be answered only at St. Petersburg. It is true the Imperial Government invites all foreign capital to enter its territory for mining or manufacturing purposes; but restrictions are severe. With regard to gold-mining privileges, the applicant must make petition in person here, or he may go to St. Petersburg if more convenient. In the latter case, the imperial authorities would refer the matter to the governor-general here before deciding the case. In no instance would such a permit be hastily granted, and an applicant without references as to character and ability to carry out his plans would undoubtedly be rejected. To land on the soil of the Maritime Province and proceed on one's own account might subject the prospector to murder or robbery on the part of wandering convicts or hostile natives. The Government also exercises strict espionage in matters of passports, permits, etc., and there is a high tax on smelting and conveyance from the mine to the Government office.

The following paragraph has appeared in American newspapers:

> From Port Arthur this summer [1899] several Americans have gone into Manchuria to prospect for gold, and, as the Russian Government advances money to bona fide miners and buys the entire output of the gold mines, there is some degree of stability in the venture.

Nothing could be more misleading than such statements. The Russian Government does not yet profess to own Manchuria. It advances no money to miners or manufacturers of any kind, except to those coming within the scope of its administrative policy. It does assist immigrants after they have arrived, but does not pay their way. It buys the output of all mines, on broad grounds of governmental policy, as it controls mining business of whatever character. But this fact would afford little "stability" to the venture of any American who came to Manchuria or the Maritime Province to engage in mining without a special permit, or a Russian partner, or a good supply of capital and abundant machinery.

In this connection it should be honestly said, without any disparagement to the future of Siberia, that it is no special place for Americans. Those who came here twenty-five to thirty years ago did well, but all had either Russian partners or married Russians and identified themselves with the country. Of those who have come within a decade, only one is an independent business man, and his success came from a Russian partnership. The others are

in subordinate positions, earning salaries about on a par with what they would earn in the United States. Siberia is no more "a field for Americans" than it is for Germans, Danes, or Swedes; indeed, not so much. Most of the young foreigners have a speaking knowledge of one or more languages besides their own. The best chance for Americans here is in the line of mechanical work. A well-equipped machine shop, with competent American artisans and specialists in certain industries, would do well in Siberia; but no American without capital or special skill in his own trade has any business here.

R. T. GREENER,
Commercial Agent.

VLADIVOSTOCK, *April 3, 1900.*

RUSSIAN LAWS ON GOLD MINING.

Commercial Agent Greener writes from Vladivostock, April 19, 1900:

I forward herewith translation and condensation of a recent French publication which furnishes information on a subject in regard to which I have had many inquiries. This report is accurate to 1898. It is possible that among the reforms contemplated, some slight changes may be already in operation. I have failed to obtain notice of them from those most likely to be informed.

All laws relative to mining operations are contained in volume 8, Laws of the Empire (edition 1893). Some provisions referring to the same subject are to be met with in volumes 9, 12, 13, 15.

Besides general regulations, the mining code contains under special sections laws relating to:

(1) Mining in the country of the army of the Don Cossacks.
(2) Mining in Poland.
(3) Private operations on State lands.
(4) Coal mining in Sakhalin.
(5) Working of amber.
(6) Gold mining.
(7) Petroleum industry.
(8) Salt industry.

From the standpoint of mining, Russian lands may be divided into four large classes: (1) Freehold lands; (2) lands in possession (so called); (3) lands of the Empire; (4) lands under His Imperial Majesty's cabinet. These latter are the private property of the Emperor. By "lands in possession" are understood forest lands, ground plots, etc., assigned by virtue of an imperial rescript to certain metallurical industries. There are few such holdings now. "Military lands" might be added to the above subdivisions, granted to certain of the Cossack armies—*i. e.*, military colonies and peasant lands.

The following is a summary of the principal enactments relative to gold mining:

The articles relating to gold mining are Nos. 416–540 (p. 123 et seq.), French edition, Russian mining code.

WHERE MINING IS PERMITTED.

(1) *Auriferous sands.*—Throughout all Siberia, private individuals may engage in working auriferous gravels on all lands, irrespective of their ownership, whether belonging to the domain of the Empire or even to the cabinet of His Imperial Majesty. The mining districts of the Altais and of Nertchinsk are exceptions to this rule. A list of places where private individuals may work placers even in these districts may be found in paragraph 417, mining code (p. 305, French edition). Besides the places there mentioned, the basins of the rivers Kadrin, Choui, Argont, and Kafoun were thrown open to private gold-mining industry in 1894. In this province, the seaboard or maritime, the regulations may be modified in cases where modifications may be deemed indispensable on account of special local conditions. This holds good also of the Amur Province. Two special permits have already been granted, one to Mr. Enoch Emery, doing business for years in the Amur, and one to Mr. David M. Clarkson, of the Maritime Province—both Americans.

These special privileges are unique, and not likely to be obtained easily. Their greatest value, indeed, is the removal of certain restrictions which have hitherto prevented a foreigner from enjoying equal privileges with Russians in these two provinces.

(2) *Auriferous veins.*—Private persons may prospect and work gold reefs in all places where placer diggings are permitted, except in the districts of the Altais and of Nertchinsk, which are the private property of His Imperial Majesty. If veins are discovered in the "pochva" (bed rock) of placers already being worked, owners are permitted to mine them within the legal boundaries of their concessions.

RIGHTS OF OPERATORS.

Temporary permits are granted to private persons to conduct mining operations on the domain of the cabinet of the Czar until the workings are exhausted.

Holders of placer concessions may work veins discovered on their claims without special permit or the payment of a special tax, provided notice be given to the proper authorities.

WHO CAN CONDUCT MINING OPERATIONS.

Persons of any condition or nationality (Russian or foreign) who are in the enjoyment of full civil rights may work auriferous deposits.

The exceptions are: (1) Hebrews, where local law forbids their residence; (2) mining, legal, and police officials; (3) officials of the central general administrative regions; (4) wives and children of such functionaries. In addition, in the Maritime Province and the Amur and adjacent islands on our coast, the right to mine gold or any mineral is reserved to Russian subjects, except in the special grants referred to.

Hence, individuals debarred from carrying on gold-mining operations on their own behalf can not act as attorneys or agents for other persons in such matters.

PROSPECTING.

To acquire the right to prospect for either alluvial or quartz gold, all persons or companies must procure a special permit on stamped paper issued by the department of mines. Permits contain no time limitations and are not transferable. A declaration in writing must be made to the police department of the locality where operations are proposed. The locality must be designated, as well as names of men belonging to the prospecting party, the date the expedition is to set out, and the place of departure. The passport and papers of each person must be accurately set forth. The cost of advertising the permit in the local press must be paid. In free territory, prospectors are entitled, so far as placer mining is concerned, to

occupy an area of 5 versts (3.3 miles) in length, and in breadth the width of the valley in which operations are conducted; in quartz mining, to an area within a radius of 1 verst (0.663 mile) from a post bearing the date when prospecting began, and the name of the individual or company. After the post is set up, the right to prospect continues as long as the party stays on the tract so marked out. Should the ground be found sufficiently rich to be worthy of "a request for a location," at least two shafts must be sunk, demonstrating the presence of gold, and "location posts" in place of the "prospecting posts" must be set up.

HOW TO REQUEST A LOCATION.

When a deposit is ascertained to be capable of being worked, a declaration of the fact must be made, in the form prescribed in paragraph 454, mining code (French edition), at the office of the chief of police in the district where the discovery is made. One copy of the declaration must be sent by the applicant for the location, within three months, without fail, to the chief office of mines, for publication in the local press; another copy goes to the district engineer, to be recorded in the register of applications for concessions. The copy sent to the chief office must be accompanied by a sum sufficient to pay expense of publication in the local press.

HOW TO PROCURE A CONCESSION.

The district engineer takes note of the copies of the declaration sent to him. He passes upon those meeting the requirements of the law and grants locations according to the requests of the claimants.

These allotments of land (otvodi) take place in the spring, summer, and autumn, and must be made by a special commissioner of locations (otvodchik) within a period of two years from the date of the district engineer's grant. In eastern, as well as in western, Siberia, the total length of a placer allotment must not exceed 5 versts (3.3 miles) in length, calculated from the "indicator's posts;" in breadth, it may comprise the whole valley to the extent of 250 sagens. (NOTE.—Springs and rivulets flowing into the river from either side must not be annexed to the concession, even if they have not been already allotted to previous concessionaries, beyond a distance of 250 sagens—1,750 feet—from their point of junction with the river.) An allotment granted for a gold-bearing vein may be of any dimensions, provided its area does not exceed 1 square verst and the breadth is at least a third of its length.

The same individual and company can not receive two adjacent concessions; after one allotment has been obtained, a second can not be granted except at a distance of at least 5 versts (3.3 miles) from the first. Holders of adjacent lots, however, are permitted to associate themselves into companies after the concessions have been granted. By arrangement with the local authorities, operators can, in addition, obtain a concession of land in the vicinity on which to erect their plant, subject to payment of a special rent. As soon as the location has been staked out and surveyed by the special commissioner, in the manner prescribed by the regulations, his notes, together with the plans and a statement of the area of the lot, are sent to the district engineer, who forwards them to the chief mining office. The papers are here verified and confirmed, after which and within six months the concessionary receives from the mining office a copy of the plan of the grant, with the notes of the otvodchik, certified and sealed with the imperial seal. A fee of 2 kopecks per dessiatine (1.028 cents per 2.69 acres) is payable upon delivery of the plans.

LOCATION OF MINING LANDS BY PUBLIC AUCTION.

Where there is failure to comply with the regulations for prospecting and making declarations applicants forfeit their right to the concession, and the domain

or the cabinet of His Imperial Majesty again resumes possession of the land. In like manner, should a concessionary decline to utilize the allotment granted, or should he fail to acknowledge within two years the receipt thereof, the lot is restored to the domain. This is also true if taxes and fees are not paid.

Each year, between February 1–14 and 15–28, lots reverting to the domain are put up at auction at the office of mines. The auction is by sealed tender. Where two or more bids are equal, lots are drawn to determine ownership. Concessions not sold are put up for auction again the following year.

MINING OPERATIONS.

After the request for location has been granted, the land may be cleared, the preliminary work undertaken, a more minute examination may be made, and actual working begun as soon as the documentary concession is in hand. Methods are left wholly to the operator. Work must be carried on without danger to the health or life of the workmen. Residues which still contain gold (efeli) must not be mixed with the waste earth or "torf" (turf or peat).

After the mine is exhausted, the operator must return the deeds of the concession to the district engineer. Buildings must be removed within a period of six months. In Siberia, timber required for use in the workings may be taken from the imperial lands free of charge, except when special or local prohibitions have been made by governor-general or local councils. (Paragraphs 512–532 regulate the use of water in the mines.)

LAND TAXES AND DUES ON THE OUTPUT.

The Russian mining code has two kinds of taxes:

(1) Land dues, calculated pro rata on the superficial area of the lot, payable from the date when the deeds granting the concession were received; due for the current year on December 31, and subject in case of nonpayment to the addition of a fine of 10 per cent.

(2) Taxes in kind, based upon the amount of pure metal (gold or silver) extracted, and deducted in the laboratories.

With regard to these taxes, a distinction must be observed between private lands and the property of the Empire; between lands "in possession" and those of the cabinet of His Imperial Majesty. In this latter category are comprised the districts of Verkni-Oudinsk and Vargonzinsk.

Auriferous localities in imperial territory are divided into three classes:

Categories or classes.	Freehold lands and imperial domains.		Lands in possession (tax per pood—36.112 pounds).
	Land tax.	Tax per pood (36.112 pounds).	
		Per cent.	
First class (district of the Olekma).	10 rubles ($5.15) per annum per dessiatine (2.69 acres).	10	Half as much again as the tax imposed upon gold extracted from freehold lands or from the imperial domains.
Second class (district of the Amur and Maritime Province).	5 rubles ($2.57) per annum per dessiatine.	5	
Third class (West and East Siberia, the governments of Perm, Orenburg, the Khirghiz steppes).	1 ruble (51.5 cents) per dessiatine.	3	

In the territory attached to the cabinet of His Imperial Majesty, the following table gives the dues and taxes imposed:

Locality.	Land tax.	Taxes.	
		Upon the annual output.	Rate.
Districts of the Altais and districts of Verkni-Oudinsk and Bayonzinsk.	15 kopecks (0.77 cent) per annum per running sagen (7 feet).	From 1 zolotnik to 2 poods.	5 per cent.
Do	do	From 2 to 5 poods..	5 per cent for the first 2 poods; 10 per cent for the remainder.
Do	do	5 poods and over...	10 per cent for the first 5 poods; 15 per cent for the remainder.
District of Nertchinsk			15 per cent.
Districts of the Amur, etc., lands of His Imperial Majesty.			By special agreement between the operators and the cabinet.

In addition to the land dues and tax per pood,* there is charged for the transportation of the gold to St. Petersburg: From Irkutsk, 46 rubles ($23.69) per pood; from Tomsk, 33 rubles ($16.99). The conveyance of the gold, in sealed sacks from the mines to the district office of the mining police and thence to the department of mines, is at the expense of the mine owner. In this province (Maritime), the charge is 150 rubles ($77.25) per pood.

The operator must bear the cost of melting down the gold. The fee, by the new regulation of February 3, 1897, is uniform—42.315 rubles ($21.79) per pood of pure gold.

Mr. Greener adds:

Such a tax per pood, at best when it exceeds a certain rate (say, 3 to 5 per cent), is without doubt detrimental to the development of the gold-mining industry, at least by outsiders; for it obliges the operator to confine himself to deposits sufficiently rich to enable him to pay this duty before meeting his own expenses.

It is possible this tax, which has no equivalent in mining laws of other great gold-producing countries, may be abolished or lessened in the reforms in the mining code which are about to be introduced by the Imperial Government.

* 1 pood=36.112 pounds.

MEDICAL EXAMINATION IN TURKISH CUSTOM-HOUSES.

The secretary of legation at Constantinople, Mr. Griscom, under date of April 28, 1900, transmits translation of the new rules concerning medical examination in the custom-houses of the Ottoman Empire, which have been summarized as follows:

Chemical preparations, drugs, food stuffs, spirits, soaps, painted toys, etc., after the usual customs examination and registration on their arrival, are submitted to a free medical inspection by a board consisting of five chemists and two doctors. If the entry of the goods is permitted, the chemists place their seals at the foot of the register, and the samples are returned to the custom-house. Goods found to be adulterated, sour, or harmful to health are noted in the custom-house register, the samples are kept for ten days, then sealed in the presence of the owner, with the date of the analysis, and returned to the place of origin or sent to a foreign country at the option of the owner, who must furnish a guaranty. Owners may, within eight days, demand a second analysis of the Imperial School of Medicine, the fees for which must be paid in advance. The second analysis must be made within fifteen days. If, after the second analysis, the goods are admitted, the fees will be returned. When there are several samples of similar merchandise, fees will be charged on only one sample. The importation of medicines the composition of which is not known and which do not conform with the French "codex" adopted by the Imperial Government is prohibited, unless, having been accepted by an official academy, the samples are accompanied by the formula and the diploma of admission. The documents must be visaed by an Ottoman consul, then the authorization of the School of Medicine may be obtained.

Cocaine and its compositions, sulphonal, Dr. Koch's antituberculosis serum, Gneiss' picrotoxin, and any specialties prepared with hasheesh and of which the import is prohibited are returned under guaranty. The entry of chlorate of potash, chlorate of soda, nitrate of soda, nitrate of potash, picrates, nitroglycerin, and gun cotton are prohibited, except in quantities necessary in medicine, and these articles are confiscated. The amount will be decided by the School of Medicine. Quantities in the various arts and trades will be fixed by the proper authorities.

The entry of impure or mixed oils, unless colored for use in manufacturing purposes, is prohibited.

Flour not containing a minimum of 9 per cent gluten or an elasticity of at least 25° can not be imported. The import of colored, adulterated, or artificial coffee and tea is prohibited. Dry provisions, liquids, sugars, colored or adulterated, will be returned to their place of origin. Alcoholic liquors mixed with salicic acid or colored are prohibited. Soaps must not contain more than one-half of 1 per cent of caustic soda, and be free from silicate of soda, chalk, talc, etc. The entry of toys, paper, or envelopes used for the packing of provisions is prohibited, if they are colored with poisonous substances.

INCREASE OF UNITED STATES TRADE IN TURKEY.

The freight brought to Constantinople and other levantine ports by the steamship *Brand*, the last steamer of the Barber direct line, indicates a gratifying increase in amount and variety of American products entering these ports. The *Brand* has just started on her return voyage to the United States, having delivered about 2,000 tons of railroad material at Alexandria, intended for the railroad up the Nile, and about 800 tons of other products at this port and Smyrna.

The American goods and products delivered at Smyrna, Constantinople, and Salonica include pumps, phonographic goods (nearly 4,550 pounds), leather, rubber boots and shoes, large variety of hardware, cotton cloth, tinware, lamp goods, wooden ware, milling machinery, cotton belting, mowing machines, chairs and other furniture, clocks, iron bedsteads, one Mosler safe, paints, lard and oleo, domestics, flour, and nearly 6,000 kegs of wire nails.

Since the establishment of the direct line and the consequent reduction in freights, wire nails and a few other articles of American manufacture appear to have taken possession of the levantine markets. In the opinion of good judges, many other staple articles will be equally popular when once fairly introduced. For the first time in the history of Constantinople, as I am informed, some of the leading stores, notably the Bon Marché and Hayden Brothers, have given orders for a line of American boots and shoes. They are so far superior to those of European manufacture that importers have every confidence in their extensive sale.

The captain of the *Brand* reports that nearly 200,000 tons of railroad material will be used on the Nile Railway during the coming season, and that the bulk of the orders will probably be given to American manufacturers.

Another steamer of the Barber direct line, the *Stalheim*, is expected at this port in a few days. She brought a cargo of case oil to Athens, is now taking part of a load of chrome ore at Ismid, and will stop at Constantinople and other Mediterranean ports on her way to the United States.

CHAS. M. DICKINSON,
CONSTANTINOPLE, *April 14, 1900.* *Consul-General.*

MARKET FOR AMERICAN GOODS IN NANTES.

M. Eugéne Harang, of No. 1 Place du Commerce, Nantes, France, wishes to be placed in direct correspondence with American dealers in certain lines of goods. He wishes to obtain prices on "sapin blanc," or white pine. This wood is used in the manufacture of wood pulp. Last year, the mills at Nantes, the largest in France, consumed 52,000,000 pounds of pulp made from Norwegian pine. The wood used is cut from trees having a diameter of not less than 4 inches, usually larger, but too small for good lumber. It is cut in lengths of 44 inches. The gentleman also wishes to correspond with parties exporting stave timber, used in the manufacture of casks. He wishes to negotiate for the purchase of cannel coal and a good quality of steam coal, such as Georges Creek or New River. The cannel coal is used for manufacturing gas.

Eugéne Harang is an energetic and prominent broker, and wishes to deal only with leading exporters or producers. He does not wish to deal through houses in London, Hamburg, or elsewhere. The city of Nantes has a population of more than 200,000 and the consular district several million. The shipbuilding and other industries of Nantes and St. Nazaire are very important. Within the past two months, would-be purchasers of American products here have been informed they could buy cargo lots through houses in Spain or England. Nantes dealers wish to deal directly with American firms and have all goods sold to them in a way that will cut off the profits of middlemen.

American dealers who understand what export trade means are entering this market with large quantities of goods, and others may be equally successful if they adopt as sound business methods. Last week, I was shown a price list of American lumber which was obtained through a United States export association. The price list was not only written in English, which the Frenchman could not understand, but it was so abbreviated that I doubt whether one American business man in a thousand could understand it, unless he were an expert lumberman. It was almost equal to a cable code.

The dealer said he could not do anything unless the letters were written in a manner that would at least enable him to have them translated.

JOSEPH I. BRITTAIN,
Consul.

NANTES, *April 30, 1900.*

SWISS SAMPLE DEPOT FOR AMERICAN GOODS.

I have received the following letter from Dr. Jurnitschek, the publisher of a Swiss trade journal and president of the Merchant Association of Chur:

DEAR SIR: At a meeting held by the Merchant Association in Chur, Canton Graubunden, Switzerland, March 26, 1900, I was commissioned to investigate and report upon the question whether or not it would be advisable to establish in Chur (the capital city of the above-named Canton) a permanent exhibition of samples of all kinds of merchandise from various foreign countries.

It is needless to dwell upon the great value of such an exhibition. I would, however, mention that in their reports of the last few years many of the American consuls have frequently and emphatically recommended the exhibition, in foreign countries, of wares and samples of American products, and it would seem very clear that a well-selected assortment displayed here would result in profitable exports to Switzerland and neighboring countries, because it would give a great number of interested people, who visit Chur, a chance to become familiar with American firms and their products.

I will not go into details here concerning this matter; I would, however, say that the main division of the exhibition would be reserved exclusively for wares and samples of various kinds, and that another division would be devoted to catalogues, illustrations of wares, price lists, etc., and one copy of each would also be placed in a reading room attached to the exhibition, for convenient examination by the visitors. Also, it would be our intention to constantly advertise the exhibition in the leading papers of Switzerland, Baden, Wurttemberg, Bavaria, and Austria.

There can be no question as to the great development of the Canton of Graubunden from now on—the completion of new railroads, the probable cut through the mountain passes, the employment of the great water and mineral resources. The number of tourists passing through our town to mountain resorts is becoming greater every year, and for this reason alone it would seem that a permanent exhibition at Chur would be of great advantage to foreign exhibitors, especially to Americans.

I write to ask if you would be willing to undertake the necessary steps in your country which may lead your export merchants to take a favorable interest in this exhibition.

I am, etc.,

DR. JURNITSCHEK,
President of the Merchant Association.

In answer to the foregoing, I informed Dr. Jurnitschek that I believed a permanent exhibition of samples of manufactured articles and agricultural products of the United States would tend to develop American trade in Switzerland, but I was of the opinion that the main establishment should be in Zurich, with branches in other places in the Republic, including Chur. Switzerland did

a general trade last year amounting to $356,505,453, about $119 for every inhabitant of the Republic, or, in the imports alone, about $78 per capita. The United States bought from Switzerland a little over $17,000,000 worth and sold to Switzerland about $14,000,000 worth of goods during 1899, and will probably increase these amounts very considerably this year. Among the American goods which found a market in Switzerland last year may be mentioned: Chemicals and drugs, one-third of which was turpentine ($250,000 worth), furniture and wood of different kinds ($300,000), leather and foot wear ($670,000), art and scientific work ($45,000), watches and watch material ($242,000), machines and agricultural implements ($500,000), metals of different kinds ($520,000), petroleum and mineral products ($1,400,000), food stuffs ($7,680,000), raw cotton ($2,560,000), and horses ($110,000).

It will be seen that the principal imports into Switzerland from the United States consisted of raw materials for Swiss industries and food stuffs. These importations involve no special work on the part of our exporters. What we want now is to get our manufactured articles better appreciated. One way to accomplish this is the establishment of a large sample depot at Zurich, with branches in other towns in Switzerland; but such an undertaking must be intelligently conducted, or it will not prove satisfactory. The right articles must be exhibited and the right persons must be selected to make sales to the small dealers throughout the Republic. It took the Swiss people a long time to be convinced, because the American shoe was refined in shape and apparently light of construction, that it would not go to pieces in a month's wear. Now that they have found that they wear quite as well as the best Swiss make, merchants are displaying American shoes in their windows decorated with tiny American flags. The same is true of many of our agricultural implements and hardware. Years were necessary to convince the Swiss farmer that our pitchforks would stand the strain of heavy work, because they are so delicate in appearance. Experience has taught them that quality and not quantity is essential for a good tool, and now on market day one often sees a collection of American pitchforks, iron rakes, hoes, shovels, etc., being sold by some small dealer.

I mention these incidents to show that only by the actual seeing and using of certain manufactured articles can some prejudices be overcome. Catalogue descriptions will not sell our manufactures in Switzerland. Hundreds of things are produced by American industry that are needed in the little Republic and would find a substantial welcome if the consumers could be made to see their merits. This can only be accomplished by patiently and tactfully presenting the advantages of these articles to the Swiss consumer. The United States is too far from Switzerland to send many commercial agents

into the Alpine Republic. Last year, Germany sent nearly four thousand agents into Switzerland. and the United States only one. A central sample depot, intelligently managed, would take the place of the commercial representatives to a great extent, and the expense would be moderate in comparison. I would not, however, recommend the establishment of a sample depot unless the best goods and the best men be used to expand our trade.

JAMES T. DUBOIS,
Consul-General.

ST. GALL, *April 28, 1900.*

AMERICAN SHOES IN FRENCH SWITZERLAND.

Under date of April 10, 1900, Consul Ridgely writes from Geneva:

American shoe manufacturers, acting upon advice and information furnished them through the Department by United States consuls, have of late been pushing for business in continental Europe, and within the past year there has been a real and growing demand for our shoes. This fact has been widely noted on the Continent, and recently Vienna houses began to copy the American article and to flood the market with their imitation goods. I am reliably informed that they copy nearly everything American they can find in the shoe line, and that in some instances they mark their goods "Made in the United States." A leading shoe dealer of Geneva tells me that Austrian drummers miss no opportunity to belittle our goods, at the same time being very careful to possess themselves of anything new they can find for the purpose of copying it. American shoes are giving satisfaction, and unless the Austrian houses undersell our exporters the latter will continue to increase their business in French Switzerland. If desired, I could procure and forward a pair of the imitation American shoes sent here from Vienna.

GERMAN VS. AMERICAN TEXTILES.

The Confectionair, a leading organ of the German textile and clothing manufacture, recently contained an article from its regular correspondent at Chemnitz which is of interest to American readers. It says, under the heading "How the Americans cause us competition with our own workingmen:"

Year by year, the American textile industry grows and makes our manufacturers look with dire anxiety to the future, for the United States not only competes with us in its own market, but will at no distant date be a powerful competitor in other markets.

Even the most optimistic manufacturers of Saxon textiles do not deny that in some articles they can not approach American fabrics. Such are the sixteen

pin lines which were formerly imported into the United States from Germany, but are now entirely replaced by the home goods. The question obtrudes itself, How has the rapid rise of manufacturing been made possible in the agrarian Union? The immediate cause was the transplantation of the German industry to the United States.

The writer here gives names of German firms which have established textile factories in various sections of the United States, and adds:

Aside from these, many of the largest manufacturing firms in the United States have German members or German managers, and the operatives are almost without exception Saxon textile workers. Thus our industry has been deeply hurt. It is a sorrowful fact that Saxon manufacturers have refrained from doing anything to check the emigration of such a vast number of skilled operatives; it is now too late to make up for this omission, the consequences of which are shown in the lack of requisite working force here and the steadily rising capacity of the American industries to take foreign markets from us.

SIMON W. HANAUER,
Vice-Consul-General.

FRANKFORT, *April 13, 1900.*

GERMAN IMPORTS OF UNITED STATES GOODS IN 1899.

The figures submitted in this report were mostly taken from official returns of the foreign commerce of Germany. The amounts given in German weights I have changed into American pounds and the values into American money. I have noted only articles of which the United States furnished part, and have arranged them in alphabetical order. With reference to barley, corn, oats, rye, and wheat, I have also noted the other chief sources of supply.

Articles.	Total importations.	From the United States.
	Pounds.	*Pounds.*
Aluminium	2,028,400	414,260
Bacon	39,726,720	36,922,160
Barley*	368,953,200	17,525,860
Beer, in bottles	414,480	83,600
Beeswax	5,773,240	162,800
Bicycles and parts of	1,128,600	406,560
Bicycles, saddles, etc	102,080	52,360
Bladders, guts, and stomachs	47,576,100	17,837,380
Brass and tombac	4,611,200	291,500
Brass, fine goods of, and other copper alloys	1,775,180	204,160
Buckwheat	57,776,960	15,434,540
Cards, playing	6,380	2,200
Caviare and caviare substitutes	848,100	169,840
Cellulose of straw and other vegetable fibers	40,392,000	275,352
Cereals, bruised and shelled	15,497,460	7,846,960
Clover seed, etc	69,360,280	17,503,420
Copper:		
Raw	154,201,080	105,033,940
Coins and scraps	10,982,840	231,220

*Austria-Hungary, 195,793,180 pounds; Russia, 122,235,960 pounds; Roumania, 29,613,760 pounds.

Articles.	Total importations.	From the United States.
Copper—Continued.		
Alloys—	*Pounds.*	*Pounds.*
In bars and plates, unplated	1,040,160	577,940
Fine goods of	1,885,180	204,160
Fine goods of	232,100	54,780
Copper, fine goods of, and of brass, nickel plated	1,085,040	262,900
Corn *	3,578,509,440	2,742,305,940
Cotton seed	2,290,860	2,289,100
Fish, salted and smoked, except herring	7,875,780	983,840
Flour, wheat	92,469,300	23,063,480
Fruits:		
Fresh, except grapes and tropical fruits	316,207,540	7,806,480
Dried and preserved	122,845,140	26,656,960
Furniture and parts of:		
Of hardwood and veneered	7,283,320	1,402,500
Of soft wood	4,123,020	578,160
Grass seed (timothy seed)	19,762,600	5,843,200
Hair (animal), not specially enumerated	7,157,480	549,340
Hams	9,503,340	6,801.740
Harmoniums and organs of all kinds and parts of	209,220	128,040
Honey and artificial honey	4,630,780	638,220
	Number.	*Number.*
Horses	118,796	4,862
Instruments:	*Pounds.*	*Pounds.*
Of glass, scientific purposes	399,960	73,260
Surgical	46,640	5,720
Iron and iron wares:		
Pig iron	1,347,833,960	6,525,486
Scrap iron	138,909,760	9,043,320
Iron bridges and parts	2,132,460	1,255,100
Iron pipes of wrought iron	49,057,580	21,603,780
Iron wares—		
Rough, not polished, not varnished, not zinc coated	29,528,620	4,241,820
Polished, varnished, zinc coated	12,956,240	2,295,700
Fine, cast	1,397,440	664,840
Iron toys, cast	2,200	1,100
Other iron wares, cast	56,388,860	3,167,340
Of wrought iron	3,507,460	758,340
Ivory, pieces of ivory, and mother-of-pearl with design started	82,720	7,700
Lard	246,988,060	244,494,140
Leather:		
Not specified	6,400,020	557,480
Sole	4,018,300	147,400
Varnished and stained, glove leather, etc	2,289,760	253,000
Leather goods:		
Coarse	825,220	95,700
Fine	2,251,480	83,380
Linseed	585,242,020	17,706,480
Lumber, sawed	3,401,190,320	545,203,560
Machines, sewing:		
With frames—		
Mainly of wrought iron	68,860	34,980
Mainly of cast iron	7,624,100	1,199,660
Without frames	3,391,740	2,965,600
Machinery:		
Mainly of wood	13,660,460	3,390,860
Mainly of cast iron	139,189,160	47,593,700
Mainly of wrought iron	30,949,820	5,968,160
Mainly of metal other than iron	910,800	125,400
Needles, sewing machine	23,980	5,060
Nickel, pure	3,060,640	947,320

*Russia, 280,456,440 pounds; Argentine Republic, 278,726,140 pounds.

Articles.	Total importations.	From the United States.
	Pounds.	*Pounds.*
Oil cakes	1,057,395,240	418,198,660
Oils and fatty substances:		
Cotton-seed oil	39,030,640	37,021,160
Cotton-seed oil, officially denaturized	56,276,880	44,661,540
Oils, fatty, in barrels, not specified, for technical purposes	3,046,620	1,044,120
Other fats, except lanolin	5,518,920	5,398,580
Oils and fats from animals, refuse	18,227,660	7,780,960
Oils, lubricating	234,573,460	87,473,760
Oils, mineral, other than for lubricating and illuminating purposes	6,941,440	4,239,400
Oleic oil	23,962,620	3,365,120
Oleomargarine	40,762,380	37,771,800
Stearic acid, palmnut stearin, paraffin, etc	12,995,840	10,377,180
Oats*	85,258,880	46,871,440
Paper:		
Packing paper, except straw paper, rough surface	753,940	337,040
Packing paper, smooth surface	4,385,040	572,660
Paper board, smooth surface, and imitation leather board	373,560	163,680
Polishing paper, slate paper, fly paper, etc	498,300	123,640
Petroleum:		
Refined	1,973,785,000	1,736,735,440
Distilled products of	17,838,700	1,806,640
Pianos and parts of	173,800	9,900
Pictures, colored prints, engravings, etc	1,472,680	89,540
Raisins	62,359,220	1,187,340
Railroad carriages and other railroad vehicles:		
Without leather and work—	*Number.*	*Number.*
Each less than $240 in value	464	131
At a value of $240 and more	125	8
With leather and work†	14	13
Resins:	*Pounds.*	*Pounds.*
Not specified	11,201,740	202,840
Resin of turpentine, balsam of	19,024,620	17,114,922
Rubber goods:		
Hard-rubber goods	49,720	12,100
Rubber hose	104,060	25,080
Rubber tires for bicycles	26,840	4,840
Wearing apparel of woven material covered with rubber	65,560	34,100
Rye‡	266,615,460	78,298,880
Sausages	10,704,100	7,868,080
In boxes hermetically sealed	8,750,280	5,584,700
Slate, roofing, and slabs	128,884,580	8,280,140
Sponges, bathing	808,280	69,520
Starch:		
Corn	2,394,700	778,140
Potato	468,600	207,240
Staves, oak, not stained	131,755,580	52,504,100
Sugar of starch, maltose, etc., crystallized	53,900	29,260
Tallow	46,832,500	22,633,380
Tar, pitch, resin, asphaltum	135,375,240	5,344,680
Tobacco, cigars, etc.:		
Leaf tobacco	126,088,860	23,359,820
Tobacco—		
Stems and ribs	5,463,040	5,364,700
Chewing	65,340	9,900
Tobacco sauce	1,818,300	719,840
Cigars	698,720	(§)

* Russia, 33,113,520 pounds; Servia, 1,481,260 pounds.

† Total value, $1,670.

‡ Russia, 173,015,260 pounds; Roumania, 11,328,020 pounds.

§ Philippines, 44,220 pounds; Cuba and Puerto Rico, 286,660 pounds.

Articles.	Total importations.	From the United States.
	Pounds.	*Pounds.*
Tools, bayonets, and saber blades	2,003,980	698,720
Watches, cases for (gold)	994,400	25,520
Wheat*	1,130,799,120	683,404,580
Wine in barrels	130,831,580	1,226,720
Wood and wooden goods:		
Carpenters' wooden goods, rough (probably mainly sash and doors)	63,391,020	8,273,320
Wooden pegs for boots and shoes	1,496,660	1,474,660
Wool, raw (washed on the body)	354,818,420	701,360
Zinc and zinc ware	48,776,860	589,820

* Russia, 188,574,760 pounds; Argentine Republic, 189,354,440 pounds.

A perusal of the foregoing figures demonstrates that, while the United States furnishes a large percentage of articles of necessity, such as cereals, meats, lard, petroleum, cotton-seed oil, oleomargarine, etc., in which little competition exists, other articles do not figure as prominently as we have reason to expect, on account of their superiority and comparatively low price. There seems to be no valid reason why the United States should not increase its exports in such articles, with intelligent effort and the employment of practical methods.

It is not my province to tell our business men who wish to do business here how to proceed; I would simply make some suggestions and state observations which have forced themselves on me during my sojourn in this country.

Germany, by reason of her density of population, her accumulated wealth, and her general prosperity, offers splendid opportunities for many goods of American manufacture. It is admitted by every unprejudiced person who knows the products of the different countries that American-made boots and shoes, for example, are the best and cheapest in the world. Unfortunately, boots and shoes as such are not specially enumerated in the official tariff statistics of Germany, but are given under the heading "leather goods, coarse," and "leather goods, fine." It is, however, stated on good authority that in the near future the statistics will be arranged in a more satisfactory manner.

From United States Treasury returns, I find that the value of boots and shoes exported from the United States in 1899 amounted to $3,668,435, of which sum Germany is credited with $101,335, against $29,515 in 1897 and $67,426 in 1898. While this increase is gratifying, it is only an indication of what should be accomplished. In this wealthy city of Frankfort, with more than 250,000 inhabitants, I can not find suitable boots or shoes for myself and family, and have to send to the United States for them. Many other Americans have the

same experience. Let our boot and shoe manufacturers, if they care for this trade, send over their agents; let them employ such measures as will suggest themselves to them after a close survey of the field, and the results, in my opinion, will surpass their expectations.

In furniture, the United States, with its raw materials and unsurpassed facilities for manufacturing, ought to control the German market in many grades. Of the hard-wood furniture imported into Germany, the United States furnishes less than 20 per cent. The value of our furniture imported into Germany in 1899 was $156,074, against $257,381 in 1898 and $303,420 in 1897.

I am sure that these conditions are due to faulty methods in trying to sell. Would it not be of benefit to our people to form a syndicate for the purpose of creating a market for American furniture in Germany?

In this connection, I would quote what the association of Berlin merchants and manufacturers says in its last annual report, discussing the sewing machine industry:

> The United States is a dangerous competitor, especially the Singer Company. All the other companies whose products at one time were well introduced in Germany—Howe, Grover & Baker, Wheeler & Wilson—had to abandon the field to the prosperous German industry. The Singer Company alone retained its hold in 1899, by judicious advertising and a good organization, whose basis is an extensive number of salesrooms under one central management, with an army of traveling agents, etc.

Our exporters should emulate the example of the Singer Company and create lucrative markets for other products of American labor.

A number of American manufacturers of agricultural implements have succeeded in pushing their goods into favor by pursuing proper methods. Their agents visit the German country fairs; they exhibit their machines in competition with those of other countries, especially Great Britain; they are constantly on the alert to increase their trade, and the results are excellent.

The export of American agricultural implements to Germany has been:

1897	$644,962
1898	1,296,193
1899	1,792,789

With reference to American watches imported here, I could find nothing in the official statistics. The report of the merchants' association of Berlin, above quoted, states that the importation of watches and clocks of every variety is constantly increasing, and the value for 1899 is given at $6,671,428 for 309,667 watches in gold cases, 812,030 in silver cases, and 433,188 in cases of other metals.

The United States statistics state the value of American watches exported to Germany at $40,115 in 1899, against $13,178 in 1898. While it is gratifying to note that the exports of watches to Germany show an increase of 300 per cent in the last year, the showing is nevertheless poor in view of the acknowledged excellence of our articles. The importations of Germany came from England, France, and Switzerland, and it would seem that the watch industry of the United States should be able to compete with these countries successfully, if our people would pay close and intelligent attention to this market.

RICHARD GUENTHER,
Consul-General.

FRANKFORT, *April 19, 1900.*

GERMANY'S CAPITAL ABROAD.

The Department has received from Consul-General Guenther, of Frankfort, under date of April 4, 1900, and Vice and Acting Consul Monaghan, of Chemnitz, under date of April 6, 1900, statements (taken from official returns) of the amount of German capital invested in transoceanic countries. Mr. Monaghan says:

Germany is rapidly rising in importance as a money-lending as well as a money-making nation. It has hundreds of millions in various parts of the globe. In North Africa, Germany has invested nearly $3,000,000. In South Africa, the German element has lost its identity as part of the Empire, immigrants having taken on new citizenship. Still, investments in Cape Colony are estimated at nearly $10,000,000; in the Transvaal, at $170,000,000; in Portuguese territory in Africa, at nearly $5,000,000; in East Africa, at $23,000,000, of which $1,190,000 is invested in Zanzibar. In Turkey, Germans own real estate valued at $7,140,000, and have $53,550,000 in various industries. This sum does not include the amount for the Bagdad railroad.

The capital in the Persian-Arabian peninsula is stated at $11,900,000.* In Mexico, the figures are $95,200,000; in Central America, $59,500,000;† the West Indies, $59,500,000; north coast of South America, $47,600,000; west coast, $71,400,000; east coast, $142,800,000; in North America, between $952,000,000 and $1,190,000,000. In other words, the Empire has nearly $2,380,000,000 working for the welfare of its citizens in the various parts of the world.

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* Mr. Guenther says that Asia (outside of Turkey) shows about $160,000,000, of which China has $70,000,000 and Japan $15,000,000. The money invested in Australia and Oceanica is estimated at $150,000,000.

† Estimated elsewhere at a higher figure. See page 461, *ante.*

MANUFACTURE OF SAUERKRAUT IN MAGDEBURG.

The best German sauerkraut is made in Magdeburg; but when a consular officer attempts to ascertain how it is made, he encounters the usual insuperable obstacle—business secrets. The manufacturer politely replies to all inquiries, "My recipe is what makes my business profitable. If I gave it to you, you could make the same sauerkraut in Washington. The fame of Magdeburg would thus be dimmed, and what would become of the orders which mean so much to me?"

The process of manufacture, omitting business secrets, is about as follows:

Take a number of heads of white cabbage, as fresh as possible, and cut them into fine, long shreds. Place in layers in barrels, or kegs, strewing salt over each layer, using half a pound of salt for each twenty-five cabbages. Press the mass down with clean feet, wooden shoes, or a heavy stamper. Place a cover on the barrel, and upon this lay a heavy stone. This presses the sauerkraut more and conserves it better. The sauerkraut must then be allowed to ferment in a cellar for from three to eight days, according to the temperature of the room. The barrel should then be tightly closed and kept in a cool place, preferably in a cellar.

Fancy grades of sauerkraut are produced by pouring white wine into the barrels after they are filled. Apples chopped very fine are also sometimes mixed with the cabbage.

After the barrel is closed, the sauerkraut will be ready for use in about a week. As soon as some is used, the barrel should be covered and a stone again placed on top.

In preparing and keeping sauerkraut, sunshine and extremes of heat and cold should be avoided.

GEORGE H. MURPHY,
Vice-Consul.

MAGDEBURG, *April 24, 1900.*

GERMAN CORSET INDUSTRY.

Those engaged in the corset industry in this country can look back upon the last ten years with great satisfaction. The progress which has been made in this line is enormous. It can be truthfully said that the German industry not only controls the home market, but it has made inroads in many of the other markets of the world.

There are about one hundred and twenty-five corset factories in

Germany, most of which are located in the Rhine provinces—Hesse-Nassau, Berlin, Hamburg, Saxony, and Wurttemberg. They employed in 1895 from forty to fifty thousand women. About one-third of the corsets manufactured in this country are exported, principally to England, Holland, and Switzerland.

Those engaged in the compilation of German commercial statistics have placed corsets in two classes, putting the silk and half silk into one and the cotton into the other. Those of the former class are more expensive and are exported in small quantities compared with those of the latter. The value of the cotton corsets exported from Germany in 1896 amounted to 1,245,860 pounds, worth $666,400, and last year (in 1899) to 1,870,440 pounds, worth $1,618,400. The importation of such articles has had a slight growth during the same period, or from 11,440 pounds in 1896 to 43,780 pounds in 1899.

The following table shows the quantities and countries to which German corsets are sent, and the quantity exported in 1899 compared with 1896:

Country.	1896.	1899.
	Pounds.	*Pounds.*
England	572,975	1,098,772
Holland	168,210	238,537
Switzerland	130,732	148,369
Denmark	96,341	107,364
United States	62,169	74,515
British Australia	5,731	61,728
Norway	56,878	51,587
Sweden	31,084	9,920
Belgium	17,195	11,904

BRAINARD H. WARNER, Jr.,
Consul.

LEIPZIG, *April 12, 1900.*

DOLL TRADE IN THURINGIA.

The toy trade may be traced back in Thuringia to the Middle Ages; it is the predecessor of the doll trade, which is of a much later date, the first doll having been manufactured about forty or fifty years ago.

Simple as a doll may appear at first sight, the work needed for its completion is complicated.

The commonest kind of doll now in the market is the one which goes under the name of "wax doll." Its trunk is made of cheap shirting, stuffed with sawdust or excelsior; its legs and arms and head are usually of papier-maché, the last having a thin wax covering; a coarse shirt completes this very poor and simple type of doll,

and yet many hands have been engaged in getting it ready. Certain workmen make the arms and legs, either by cutting them out of wood or by molding them of papier-maché; others arrange the limbs in flat, wooden boxes, which are put near the stove or in the sun to dry; others dip the arms and legs into a basin containing red dye, to give them a flesh-like appearance; others sew, cover, and stuff the doll; others paint the eyebrows, lips, and hair; if this last be not merely indicated by paint, mohair is glued on. The manufacture of the glass eyes, as well as the fixing of the same in the head, is again done by different people; and all the parts are put together by a small manufacturer, who usually lives in town and to whom the workmen engaged in the manufacture of parts of dolls carry the product of their weekly toil.

Model dolls are quite similar to the wax dolls, with the exception that they are provided with heads made entirely of wax.

In the manufacture of mat dolls, the limbs and heads are dipped into a solution which is supposed to make them washable.

The making of fine doll wigs must be considered an art by itself. Mohair, which is imported in large quantities from England, is used in this manufacture; sometimes human hair is employed, but the latter material being expensive, its use will always be limited.

The consumption of china bisque heads is very large, and about a dozen factories are engaged exclusively in manufacturing them, two new ones now being built in this district.

The mass out of which china heads are made consists of china clay, quartz sand, feldspath, and kaolin. These materials are put into iron drums and mixed, ground between flint stones, and wetted. The mixture is filled into hollow gypsum forms, and remains long enough to allow part of the mass to settle on the inner surface of the mold and become firm. The remainder is poured out again, and the gypsum forms, which consist of two parts, are removed so that the china heads in their unfinished state are left. Before they have become quite hard, all roughness is removed from the surface, and the spaces for the mouths and eyes are cut out. Next, the heads are exposed in ovens to an intense heat for about three days; they are then painted and placed for a few hours into another kind of oven, so that the paint is burned in.

The glass eyes are blown out of tubes held over a strong gas flame; they are connected by wire, and, if it is desired to make them movable, a lead weight is fastened to the wire.

The dressing of dolls is also an extensive industry. Manufacturers employ up to 200 or 300 hands—mostly girls. Of recent years, dolls are brought out dressed in uniforms to represent some well-known character. Dolls dressed in khaki are now being put

on the English market. In this district, cheap goods are mostly manufactured.

The following list gives the general prices and sizes for articles of medium quality. These prices are, of course, subject to fluctuations:

Description.	Height.		Cost per dozen.	
Wax and mat (or washable) dolls:	*Centimeters.*	*Inches.*	*Marks.*	
5-cent lines	24	9.4	0.80	$0.19
10-cent lines	38	14.9	1.80	.428
25-cent lines	55	21.6	4.00	.952
50-cent lines	65	25.5	8.50	2.023
$1 lines	80	31.4	17.00	4.026
Wax model dolls:				
10-cent lines	27	10.6	1.80	.428
25-cent lines	36	14.1	4.00	.952
50-cent lines	50	19.6	8.50	2.023
$1 lines	70	27.5	18.00	4.284
Jointed dolls:				
5-cent lines	15	5.9	.80	.19
10-cent lines	20	7.8	1.90	.452
25-cent lines	33	12.9	4.50	1.071
50-cent lines	43	16.9	9.00	2.142
$1 lines	50	19.6	18.00	4.284
$1.50 lines	55	21.6	26.00	6.188
$2 lines	60	23.6	42.00	10.00
Kid-body dolls:				
25-cent lines	30 to 35	11.8 to 13.7	4.50 to 5.00	$1.071 to 1.19
50-cent lines	40	15.7	8.00	2.023
$1 lines	50	19.6	18.00	4.284
$1.50 lines	55	21.6	24.00	5.712
$2 lines	60	23.6	42.00	10.00
Dressed dolls:				
5-cent lines	12	4.7	.85	.207
10-cent lines	16	6.2	2.00	.476
25-cent lines	24	9.4	4.50	1.071
50-cent lines	30	11.8	8.75	2.07
$1 lines	40	15.7	18.00	4.284
$1.50 lines	46	18.1	26.00	6.188
$2 lines	50	19.6	46.00	11.148

It is customary for most of the doll and toy houses to give a 5 per cent discount for cash.

OLIVER J. D. HUGHES,
Consul.

COBURG, *April 25, 1900.*

GERMAN PHOTOGRAPHERS' EXHIBITION.

At the request of Herr K. Schwier, president of the German Photographers' Association, I would call the attention of photographers in the United States to the twenty-ninth meeting and exhibition of the above association, to be held at Berlin from July 30 to August 4, 1900, in the rooms of the new Artists' Club. Members of the Photographers' Association of America are invited to be present and

exhibit. American photographers are the only foreigners who have received special invitations.

The programme to be carried out is interesting and instructive, including visits to the optical institute of C. P. Goerz, at Friedenau; to the observatory at Treptow; to Steglitz; to Wannsee, and thence by boat to Potsdam; etc.

The exhibition is to be divided into two groups of thirty-four numbers, each number to receive a medal, diploma, or "Ehrenpreis." All kinds of photographs are allowed to be exhibited, as well as everything appertaining to the art of photography, such as chemicals, apparatus, backgrounds, and implements. An historical division is also planned and will be made as complete as possible; in this group will be found articles that have not been in use for over five years—photographs made by the old processes, daguerreotypes, panotypes, etc. Exhibits for this section will have carriage paid by the association. Diplomas will be given for best exhibits in this line, and intending exhibitors are requested to communicate as soon as possible with the president of the association at Weimar. This section promises to be of unusual interest, and it is to be hoped that Herr Schwier's efforts to render it a complete history of the art of photography will find hearty cooperation.

Exhibits are to be delivered between July 16 and 20 to the firm of Bartz & Co., Potsdamer Strasse 112 b, Berlin, at expense and risk of sender. This firm is responsible for the return of the exhibits in good condition.

Exhibits intended for the prize competition and as donations may be sent to Herr Schwier, Berlin, Bellevue Strasse, Kunstlerhaus, without previous formal entry. These donated exhibits should reach Berlin on July 20 at latest. No charge will be made for space. Exhibits must be accompanied by full descriptive information for the prize jury in time to permit the writing of the critical review of the exhibits before the opening of the exhibition.

Announcements of intention to exhibit arriving after the 1st of July can be accepted only if space permits. Forms of announcement may be obtained from Herr K. Schwier. These should, when filled out, be sent to Herr Ottomar Anschütz, Berlin, Leipziger Strasse 116.

Each exhibit should be marked "Für die Austellung des D. Phot.-Vereins." Printed labels will be furnished with the announcement forms in quantities as requested.

The exhibits will be insured against fire by the association, at the valuation placed upon them by the exhibitors. No further responsibility will be assumed by the association.

It is requested that exhibitors permit the reproduction of photo-

graphs exhibited, either in the "Wandermappe" of the association or in its official organ, when such reproduction would prove of interest. The forms of announcement contain a space where this permission may be given by the exhibitor.

Space in the exhibition rooms which the exhibitor desires should be requested with the announcement of intention to exhibit; this request may be addressed to Herr Paul Goerz, Friedenau bei Berlin. The cost of space for members of the association and for those of the Photographers' Association of America is as follows per square meter:

	Marks.	
Up to 5 square meters (5.9 square yards) table, wall, or floor space.....	5=	$1.19
Up to 10 square meters (11.9 square yards) table, wall, or floor space.....	6=	1.42
Up to 15 square meters (17.9 square yards) table, wall, or floor space.....	8=	1.90
Up to 20 square meters (23.9 square yards) table, wall, or floor space.....	10=	2.38

For nonmembers of the two associations, the price is—

	Marks.	
Space up to 5 square meters (5.9 square yards).....	7.50=	$1.79
Space up to 10 square meters (11.9 square yards).....	9.00=	2.14
Space up to 15 square meters (17.9 square yards).....	12.00=	2.86
Space up to 20 square meters (23.9 square yards).....	15.00=	3.57

From August 2 to 26, the exhibition will be open to the public, and the day after closing the exhibits will be returned to the owners.

Through the courtesy of the Minister of Public Works, all exhibits are to be returned free as far as the royal Prussian and grand ducal railways carry them.

The prize jury consists of seven persons. As presidents there have been chosen Prof. Dr. Bruno Meyer, Berlin; Kaiserlich und Königlich Regierungsrath L. Schrank, Vienna; Court Photographer L. E. Gottheil, Königsberg; and two members elected by the meeting and two by the exhibitors. There will be lectures and discussions, the following subjects being announced: Exhibition and explanation of novelties; short accounts of matters affecting photographic practice; the "Palestine journey of the German Emperor and Empress," with views; and "About modern realistic light effects."

Any special information may be obtained from Herr K. Schwier, Weimar, or through this consulate.

THOS. EWING MOORE,
Consul.

WEIMAR, *April 28, 1900.*
No. 239——8.

ENGLAND, GERMANY, AND THE UNITED STATES IN THE WORLD'S MARKETS.

Of the $18,000,000,000 worth of commerce done by all nations, England's share is 18.3 per cent, Germany's 10.8 per cent, and 9.7 per cent falls to the United States.

Germany has built up her foreign commerce at England's expense; and the United States, which is just entering the field, is building up a great foreign trade at the expense of both.

In Australia, in Africa, in South America, and in China the commercial representatives of each nation are fencing for vantage ground upon which to build safe markets for home industries.

Formerly, English buyers bought manufactured goods in Germany at ridiculously cheap prices. These goods were forwarded to great merchant houses in London to be resold in foreign markets. To-day, these same goods for the most part are shipped from the district of manufacture direct to the buyer in foreign countries. The middleman's profits now go to enrich the German manufacturer and laborer.

The following causes have contributed to Germany's success in competition with England:

First. German-manufactured goods are cheaper and in some cases better.

Second. German merchants adapt themselves entirely to the wants of their customers. Industrial commissions have been sent out to South America, Mexico, China, Japan, South Africa, etc., to study and report upon the conditions and needs of the people in those countries.

Third. The German traveling men have a better technical knowledge of their branches and are familiar with more languages than agents of other countries. They are active, resourceful, and gifted with tact, three essential things in selling goods in a foreign country.

If we ever hope to obtain the first place commercially, we must watch and, to a certain extent, adopt the weapons of our rivals, viz: Technical schools, trained traveling men, permanent and able consular officers who are keenly alive to all commercial interests, a merchant marine large enough to carry three-fourths of our exports, and sound money.

JNO. F. WINTER,
Consul.

ANNABERG, *April 14, 1900.*

IMPORTS INTO GERMANY FROM ITS COLONIES.

The following is translated from the Deutsches Handels Museum, May 1, 1900:

The importance which its colonies have already gained in connection with Germany's import trade is shown by the following statistics:

From German West Africa (Kameruns and Togo) there was imported 78,700 kilograms (173,502 pounds) of cocoa in 1897, 182,700 kilograms (402,780 pounds) in 1898, and 153,300 kilograms (337,965 pounds) in 1899. The total exportation of cocoa from the Kameruns in 1899 amounted, in round numbers, to 200,000 kilograms (440,920 pounds), against 83,000 kilograms (182,982 pounds) in 1895. From German East Africa, coffee was imported into Germany as follows: In 1897, 33,000 kilograms (72,752 pounds); in 1898, 79,800 kilograms (175,927 pounds); and in 1899, 117,000 kilograms (257,938 pounds). The importation of raw caoutchouc from German East and West Africa was 414,500 kilograms (912,807 pounds) in 1897, 349,000 kilograms (769,405 pounds) in 1898, and 448,700 kilograms (989,204 pounds) in 1899. From German West Africa, 6,100 kilograms (13,448 pounds) of ivory were imported in 1897, 10,400 kilograms (22,928 pounds) in 1898, and 8,800 kilograms (19,400 pounds) in 1899. The importation of palm oil from German West Africa in these three years was 1,316,800 kilograms (2,903,017 pounds), 1,397,600 kilograms (3,081,149 pounds), and 566,000 kilograms (1,247,804 pounds). The importation of palm nuts and copra from German West Africa and New Guinea amounted to 6,688,500 kilograms (14,745,467 pounds), 3,967,500 kilograms (8,746,751 pounds), and 3,017,000 kilograms (6,651,278 pounds). The other most important articles supplied by these colonies are valuable woods, vanilla, tobacco, wax, feathers, wool, tannin, etc. That the increasing importance of importations from the protectorates is realized in governmental circles is shown by the fact that representatives of the German Colonial Society have been invited to participate in the deliberations of the Imperial Ministry of the Interior, relative to the new customs tariff.

GEO. H. MURPHY,
Vice-Consul.

MAGDEBURG, *May 3, 1900.*

BELGIAN TRADE, FIRST QUARTER OF 1900.

Consul-General Lincoln sends from Antwerp, May 11, 1900, comparative tables of the imports, exports, customs receipts, and navigation for Belgium during the first three months of 1900, as follows:

Imports, exports, and customs receipts.

Description.	1900.	1899.	Increase.	
				Per cent.
Imports (merchandise)	$98,398,541	$95,419,007	$2,979,534	3
Exports (merchandise)	79,721,738	77,158,312	2,563,426	3
Customs and duties received (general total)	2,685,228	2,333,065	352,163	15

Navigation.

Entered and cleared.	1900.		1899.		Increase.			
	Number of ships.	Tonnage.	Number of ships.	Tonnage.	Number of ships.		Tonnage.	
						Per cent.		*Per cent.*
Entered	2,068	2,018,134	1,921	1,972,960	147	8	45,174	2
Cleared	2,121	2,102,361	1,870	1,933,212	251	13	169,149	9

Imports into Belgium from the United States.

[Comparing the first three months of the year 1900 with that of the years 1899 and 1898.]

Articles.	1900.	1899.	1898.
Barley ..... pounds...	62,525,675	4,297,956	70,469,433
Bran ..... do.....	4,047,081	3,044,160	6,902,089
Buckwheat ..... do.....	1,797,851	4,698,099	3,703,509
Indian corn ..... do.....	135,747,383	106,265,283	132,099,043
Rye ..... do.....	7,220,828	7,654,204	22,075,096
Oats ..... do.....	4,738,458	130,034	1,242,091
Wheat ..... do.....	85,703,421	273,620,759	115,233,836
Forage ..... do.....	1,676,706	2,647,532	1,385,082
Flour:			
Wheat ..... do.....	2,058,686	1,600,899	537,706
Of barley, oats, corn, and buckwheat ..... do.....	89,676	176,754	266,329
Unclassified ..... do.....	14,782	3,935	.....
Nonalimentary, fecula ..... do.....	1,802,356	2,095,133	2,398,706
Coffee ..... do.....	292,676	318,357	264,065
Cotton ..... do.....	24,318,818	16,931,992	31,497,143
Hops ..... do.....	17,329	46,527	.....
Malt ..... do.....	418,914	441,930	727,170
Raw animal substances, such as lard ..... do.....	5,566,799	5,994,448	8,015,932
Animal fat, not specified, and fish oil ..... do.....	2,797,147	3,119,040	885,587
Raw animal substances, horsehair, shells, etc ..... value...	$32,221	$28,851	$17,534
Fruits:			
Prunes ..... pounds...	408,208	117,157	276,085
Dried, unclassified ..... value...	$22,415	$18,311	$25,571
Honey ..... pounds...	265,645	257,931	123,846
Meats:			
Salted or smoked ham, tongue, etc ..... do.....	6,517,710	6,573,681	11,721,051
Preserved ..... do.....	308,166	154,736	299,175
Raw animal matter, unclasssified, grease ..... do.....	208,418	158,354	720,420
Petroleum, refined ..... do.....	63,842,813	67,656,647	67,338,973
Rushes, bamboo, etc ..... value...	$27,319	$105,834	$3,125
Stones, unclassified ..... pounds...	10,453,514	10,465,807	15,463,031
Tar, asphalt, etc ..... do.....	17,204,972	11,111,567	14,069,446
Copper and nickel:			
Unworked ..... do.....	3,750,928	461,251	4,171,753
Worked ..... do.....	68,858	20,079	44,557
Iron:			
Cast ..... do.....	3,119,970	6,516,564	4,846,017
Wrought ..... do.....	6,684	61,025	11,354
Old ..... do.....	1,500,936	15,433	132,305
Not specified ..... do.....	77,507	20,020	14,660
Lead ..... do.....	2,635,478	447,093	879,626
Steel in bars, sheets, and wire, unspecified ..... do.....	73,148	135,812	75,177
Tools, machines of iron and steel, unclassified ..... do.....	100,408	81,998	49,147
Machines and machinery:			
Unclassified ..... do.....	238,502	8,170	30,655
In cast iron, unclassified ..... do.....	2,070,919	890,724	580,753

Imports into Belgium from the United States—Continued.

Articles.	1900.	1899.	1898.
Bicycles and bicycle parts.....value...	$5,941	$12,270	$19,687
Firearms.....do.....	$1,289	$1,308	$1,066
Hemp.....pounds...	.....	558,642	51,323
Cordage.....do.....	.....	36,355	41,166
India rubber, manufactured.....value...	$724	$1,367	$1,173
Hides, raw.....pounds...	56,118	44,121	107,365
Leather, tanned.....do.....	30,977	23,514	20,672
Furniture.....value...	$7,215	$3,253	$4,705
Haberdashery and hardware:			
10 per cent duty.....do.....	$247	$276	$230
15 per cent duty.....do.....	$4,876	$6,885	$6,018
Paper, not specified.....pounds...	221,701	158,149	299,049
Chemical products, unspecified, such as carbonic-acid gas, etc.....value...	$311,623	$221,981	$131,300
Dyes and colors, not specified.....pounds...	610,218	431,969	290,833
Drugs:			
Unclassified, plants, roots, flowers, etc.....do.....	12,423,578	7,815,909	12,348,165
Glue.....do.....	3,483	.....	62,264
Tobacco:			
Unmanufactured.....do.....	2,694,677	2,742,666	2,609,349
Smoking and snuff.....do.....	14,415	2,815	4,451
Cigars and cigarettes.....do.....	3,576	5,562	1,953
Vegetable oils, nonalimentary.....do.....	9,955,407	4,352,486	4,796,546
Vegetables and vegetable substances:			
Unspecified.....do.....	243,128	297,198	507,763
Unspecified, grains.....do.....	534,615	1,923,048	....
Oil cakes.....do.....	44,377,967	40,233,399	33,330,985
Wood:			
Oak and walnut—			
Split.....cubic meters...	210	623	18
Sawn.....do.....	6,792	3,161	4,793
For building purposes, other than oak and walnut—			
Unsawn.....do.....	94	582	301
Sawn, beams, etc.....do.....	1,402	1,086	2,097
Sawn.....do.....	14,448	13,085	16,979
Wrought.....value...	$85,891	$50,469	$67,983
Horses.....number...	1,008	1,034	1,632
Wool.....pounds...	46,940	19,526	2,143
Raw mineral matter, unclassified, such as mineral copper, lead, zinc, etc.....pounds...	115,926	56,742	39,677
Works of art.....value...	$402	$129	$19,394

Exports from Belgium to the United States.

[Comparing the first three months of the year 1900 with that of the years 1899 and 1898.]

Articles.	1900.	1899.	1898.
Alcoholic liquors, brandy of every description, in bottles, gallons.....	1,294	238	555
Brandy of every description in casks.....gallons...	1,189	1,533	924
Beer, bottled.....do.....	7,793	5,351	5,204
Chicory.....pounds...	8,086	.....	.....
Burnt and prepared.....do.....	1,874	.....	.....
Cocoa butter.....do.....	5,132	.....	16,038
Coke.....tons...	600	960	500
Coal:			
Ordinary pit.....do.....	11,790	7,910	6,470
In bricks.....do.....	8,950	16,393	17,200

Exports from Belgium to the United States—Continued.

Articles.		1900.	1899.	1898.
Chemical products, not specified, such as carbonic acid and sulphuric acid	value	$173,128	$152,888	$143,056
Sal soda	pounds	262,347	226,752	829,665
Sulphur	do	357,399	179,615	1,048,949
Salt, raw	do	.....	110,230	.....
Raw mineral matter, unclassified, such as tin, copper, lead, zinc, etc	value	$31,980	$25,590	$56,317
Lead, unclassified	pounds	22,412	12,090	.....
Steel rails	do	705,472	187,371	.....
Steel in bars, sheets, and wire, unspecified	do	156	.....	.....
Iron:				
Small beams, in cast	do	141,535	.....	162,578
Beaten, in wire, or rolled	do	1,113,213	88,184	738,391
Wrought	do	166,454	169,983	224,230
Coppered, galvanized, and nickeled	do	11,375	.....	20,238
Machines and machinery:				
In cast iron, not specified	do	13,117	44,943	74,128
In iron and steel, not specified	do	62,134	370,030	890
In other metals	do	14,301	5,151	1,442
Firearms	value	$88,284	$88,039	$54,368
Haberdashery and hardware	do	$7,969	$3,567	$21,213
Furniture	do	$1,038	$2,200	$3,387
Cement	pounds	46,507,529	26,953,186	54,875,294
Stones for building purposes	do	539,676	.....	70,701
Paper, not specified	do	546,317	121,958	205,303
Books:				
Paper back or bound	do	19,630	4,363	34,925
Unbound	do	788	9	196
Clothing of all kinds, ready made	value	$46,879	$37,178	$38,697
Cotton tulles, laces, etc	do	$4,699	$3,165	$3,468
Cotton textures	do	$18,976	$10,725	$18,620
Woolen textures	do	$27,367	$41,022	$65,260
Woolen thread (carded, twisted, etc.)	pounds	3,968	.....	8,245
Wool, raw	do	1,105,818	713,563	1,402,108
Silk textures	value	.....	$58	$3,947
Flax	pounds	9,700	7,709	40,408
Jute, hemp, etc., textures	value	$30,880	$56,106	$56,982
Oakum	pounds	12,853	15,509	160,087
Cordage	do	9,700	7,709	40,408
Oilcloths of every description	value	$1,235	$135	$135
Textures of every description	do	$2,258	$154	$19
Horsehair, bristles, shells, etc	do	$24,414	$4,779	$30,592
Live plants and flowers	do	$96	$675	$1,911
Hides, raw	pounds	2,421,660	2,130,058	1,858,888
Skins, dyed, varnished, etc	do	36,632	57,558	18,477
Gloves	value	$46,040	$41,375	$32,812
Rags	pounds	6,567,486	3,477,935	4,518,414
Medicinal plants, essences, etc	do	12,683	.....	3,946
Meats, preserved	do	29,982	44,121	844
Mineral water of every description	value	$17,775	$6,215	$15,619
India rubber:				
Raw	pounds	628,249	591,479	340,461
Manufactured	value	$386	$521	.....
Resin and bitumen, unclassified	pounds	351,832	830,887	210,171
Glass:				
Window	do	7,791,764	7,425,404	8,757,696
Ordinary	do	154,595	147,633	146,396
Mirrors	value	$28,853	$74,830	$9,479
Ivory	pounds	18,166	10,522	14,223
Works of art	value	$2,003	$2,509	$2,918
Sugar, raw beet-root	pounds	13,467,654	13,261,277	.....

Exports from Belgium to the United States—Continued.

Articles.	1900.	1899.	1898.
Vegetables, preserved.....pounds...	96,944	31,358	88,512
Vegetables and vegetable substances, not specified.....do.....	44,202	62,229	101,599
Vegetable oils:			
Alimentary .....do.....	.....	37,478	41,695
Nonalimentary.....do.....	333,101	238,060	213,776
Animal fat.....do.....	559,263	558,487	757,163
Wood pulp.....do.....	290,969	.....	357,123
Wood, wrought..... .....value...	$85,890	$50,469	$67,923
Dyewoods .....pounds...	.....	.....	10,693
Various products for industrial purposes.....value...	.....	$92	$580
Dyes and colors.....pounds...	1,040,340	1,362,775	1,233,006

AN ENGLISH VIEW OF THE HOSIERY TRADE.

A recent number of the Hosiery Trade Journal, published at Leicester, contains an article which epitomizes the English view of the hosiery trade. Following an analysis of the exports from the Nottingham district and from Chemnitz, Saxony, for the first quarter of 1900, the Journal states:

As regards Nottingham, the trade with the United States is on the decrease, as the following comparison with the first quarters of the years 1899 and 1898 show:

Total exports for three months ended March 31.

Year.	Amount.	
	£ s. d.	
1900	15,579 16 7	$75.819.24
1899	19,908 15 3	96,885.99
1898	22,428 16 3	109,149.82
Decrease:		
From 1899.....	4,328 18 8	21,066.75
From 1898.....	2,520 1 0	12,263.82
From 1897.....	13,885 14 5	67,571.35

The Chemnitz reports do not show such a marked decrease. The total exports for three months ended March 31 (figures being approximate) were:

Hosiery and underwear.

Year.	Amount.	
1900	£234,069	$1,139,096
1899	222,493	1,082,762
1898	256,207	1,246,831
Increase over 1899.....	11,576	56,334
Decrease:		
Over 1898.....	33,714	164,069
Over 1897.....	65,432	318,425

The vast strides that American manufacturers are making must have a telling effect upon their imports, as not only does the volume of home-manufactured goods increase each year, but the standard of quality also advances. This tends to limit the exports from this country and Saxony to only the best grades and specialties. The apparent drawback to the American knitting trade is the rush for quantity at the cost of quality. As soon as American manufacturers study the finish of their productions, so soon will there be a falling off in imports of the higher quality.

The progress made by the American manufacturer is thought by many here to be due entirely to the protective tariff. This may or may not be the case; but a large American manufacturer says that the success of the American trade is due to the combination of the whole trade, enabling all questions of trade interest to be discussed and obtained from the legislative authorities.

S. C. McFARLAND,

NOTTINGHAM, *May 2, 1900.* *Consul.*

IMPROVEMENTS IN CIRCULAR-KNITTING MACHINES.

An improvement in circular-knitting machines has been patented by Messrs. Bettney & Hammersley, of Nottingham, the object being the production of a circular-knitting machine which will produce plain and ribbed fabric, changing automatically from one to the other, or from one class of rib to another, without stopping the machine or removing the needle loops from one needle to another. These changes may be made on any number of needles, and needles have independent action, and the machine has reciprocating motion, which enables heels and toes to be made.

Another improvement wherein a seamless tubular fabric may be knit and the needles fed by a single thread—the fabric having at the same time regular woven or knit portions, and openwork or lace portions, the same extending throughout the length of the fabric—has been patented in Great Britain by H. Brown, of Pennsylvania, and consists of a knitting machine with frame cylinder and one set of needles only, which may be arranged in sets of short and long latched needles. The feed is carried by a regular cam cylinder, which is provided with an auxiliary cam, adapted at alternate revolutions of the cylinder to raise both long and short latch needles, so that the thread in one instance will rest below the latches of the short latch needles only, whereas in the other case it will rest below the latches of both sorts of needles. By this arrangement of needles and cams, openwork designs in variety are made.

S. C. McFARLAND,

NOTTINGHAM, *May 2, 1900.* *Consul.*

WASTE PRODUCTS OF COTTON MILLS.

In compliance with the request of a Massachusetts firm, a Department instruction was sent under date of January 3, 1900, to certain consular officers in Europe, asking for information relative to the disposition made of the waste products of cotton mills, the object being to endeavor to utilize these products (now largely exported from the United States) at home. The replies follow.

MANCHESTER.

Consul Grinnell writes from Manchester, February 8, 1900:

Since the receipt of instruction of January 3, 1900, I have addressed letters to firms in this district, with the following results:

REPLY FROM ROBERT BYROM, COTTON SPINNER, STALYBRIDGE, LANCASHIRE.

We are afraid we can not give you very much information re waste products in cotton spinning.

Personally, we only spin yarn made from pure cotton. However, we may say that the machinery is made by Platt Bros. & Co., Oldham; Howard & Bullough, Limited, Accrington; John Hetherington & Sons, Manchester; and many other smaller firms. A large quantity of cotton waste is used in Yorkshire and probably a larger quantity is shipped to the Continent, where it is spun into low yarns. It is, we believe, very much cut in price, and consequently not very profitable.

REPLY FROM MESSRS. HORROCKSES, CREWDSON & CO., LIMITED, COTTON MANUFACTURERS.

We believe cotton waste is utilized to the fullest extent both in Lancashire and Yorkshire. The machinery is made by Messrs. Howard & Bullough, Limited, Accrington; Platt Bros. & Co., Limited, Oldham; Brooks & Doxey, Limited, Gorton; and Asa Lees & Co., Limited, Oldham.

The Manchester Chamber of Commerce sends the following figures:

Quantity and value of cotton waste imported into the United Kingdom from the United States in each of the years 1894–1898.

Year.	Quantity.	Value.	
	Pounds.		
1894	1,400,312	£16,227	$78,968.69
1895	2,423,613	20,988	102,138.10
1896	3,493,034	31,171	151,633.67
1897	6,793,957	63,842	310,687.09
1898	2,394,134	18,472	89,893.98

The statistics so far published concerning 1899 are not sufficiently detailed to enable me to give the amounts for last year. They will not be published until June or July.

In regard to the machinery for manufacturing the waste, I have obtained data from machinery makers in this consular district as follows:

REPLY FROM MESSRS. ASA LEES & CO., LIMITED, OLDHAM.

The spinning of cotton waste in all parts of Lancashire is done much less than formerly. We should think that less than one-half of the waste produced in Lancashire mills is reworked here; the bulk of it is exported to the Continent, where lower counts are spun.

Waste spinning comprises: Clean, soft mill refuse worked up into wadding; mill sweepings and dirty, oily, soft mill refuse worked up into a coarse yarn, say about 4s, 6s, or 8s, by a special plant; also waste from the different processes known as spinners', reelers', and weavers' waste, including cop bottoms, which is broken up and passed through a special plant quite different from the preceding. Then there is some waste from the winders, spinners, reelers, and doublers, which is made into engine or cleaning waste.

The machinery is chiefly made in this consular district. The waste is sometimes spun on ordinary cotton-spinning machinery and sometimes by what is known as the condenser system. In the latter case, a large number of threads are taken from the carding engine by the condenser, and these are then spun on the mule, without the usual intermediate processes. We make all kinds of machinery for preparing and spinning waste on various systems.

The machines used for spinning waste by the condenser system, which is the best for low numbers, are as follows: Willow, or some kind of cleaning machine; automatic hopper feeder; breaker carding engine; Scotch feed or other feeding arrangement for taking the sliver from the breaker card to the finisher card; finisher carding engine; condenser attached to the finisher card; self-acting mule. When hard waste is used, a machine for breaking it up is also required.

We learn that the import of waste from mills in the United States is at present not very considerable, and the bulk of waste so imported is reexported to the continent of Europe.

REPLY FROM MESSRS. BROOKS & DOXEY, LIMITED, MANCHESTER.

We duly received your esteemed favor of the 30th ultimo, and, with every desire to take advantage of your kind offer, we do not think we are sufficiently expert in the finishing processes in connection with the cotton-waste trade to supply the information required. The machinery we manufacture deals entirely with the spinning of waste, and naturally, when visiting the various mills in England and elsewhere where this machinery is used, we see for ourselves some of the goods into which this waste enters largely, but not sufficiently to enable us to write an expert opinion upon the matter.

In the first place, we may say that the waste from the English mills is largely exported to the Continent, and our own manufacturers of cotton-waste yarn are dealing with only a very small portion of the trade. Here, so far as we know, the yarn is used for the following purposes: Candle wicks, sponge cloths (these are used in many works in place of cotton waste), towel manufacturing, bed quilts, flannelettes, and in place of flax yarn for the backs of Kidderminster carpets. In very many cases, of course, only one portion of the yarn used in the manufactured goods is made from waste, the other portion being made from good wool or cotton.

So far as we know, the districts on the Continent to which English waste is largely exported are: Verviers, Belgium; Termonde, Belgium; Rhenish Prussia (M. Gladbach); Chemnitz, Saxony.

The objection to furnishing the United States consul information as to the working of mills by the cotton spinners and manufacturers of this district is universal and insurmountable.

I am indebted for much of the above data to the efforts of Mr. J. N. Field, a large buyer of Manchester cottons.

Under date of February 10, 1900, Mr. Grinnell transmits report and explanation from Messrs. Dobson & Barlow, Limited, of Bolton, Lancashire, as follows:

EXPORT DEPARTMENT, KAY STREET WORKS,
Bolton, February 9, 1900.

WILLIAM F. GRINNELL, Esq.,
United States Consulate, Manchester.

DEAR SIR: Re waste spinning. In accordance with the request contained in your favor of the above date, we have pleasure in giving you below information respecting the spinning of waste into yarn. Waste is classed in this country under many different heads, such as—

Droppings, from opener and scutching machines.
Flat strips, being strippings from the fats of carding engine.
Grid fly, from underneath card cylinder and licker-ins.
Brush strip, obtained after stripping cylinder and doffer of cards.
Card-room sweepings.
Comber waste.
Bobbin waste, from fly frames and spinning machines.
Clearer waste, from top and under clearers of fly frames and spinning machines.
Hard ends, from rovings, cop bottoms, etc.
Fluker waste, from mules.
Carriage fly, from mules.
Spinning-room sweepings.
Oily waste.

As you will naturally understand, such a variety of waste requires different treatment, but the general machinery used for converting the same into yarns is as follows:

Self-acting grid and delivery willow for cleansing the waste from sand, dirt, leaf, and other impurities.

Hard-waste breaking-up machine with from one to six cylinders, as required, for breaking up hard waste of all descriptions.

Soft-waste breaking-up machine with one cylinder, for slubbing intermediate and roving frame waste, roller laps, etc.

Single scutcher and lap machine for making the waste into laps preparatory to being placed behind the carding engines. Hopper feeders for feeding these machines automatically, instead of by hand, can be applied if desired.

The carding of waste can be performed by two systems, viz:

Carding on Derby doubler system. Breaker carding engine, fed by two single scutcher laps and arranged to deliver the material into cans in sliver form. Derby doubler, fed by from 40 to 60 carding-engine slivers, as required, to make the same into laps for the finisher carding engine. Finisher carding engine fed by Derby doubler laps, arranged with condenser delivery, for up to one hundred and twenty threads or slivers, as required, according to the class of yarns to be spun. These threads can be wound onto one, two, three, or four bobbins, as desired.

Carding on Scotch feed system, in lieu of above. Breaker carding engine, fed by two single scutcher laps, with Scotch feed apparatus attached, for delivering the material in a ribbon-like form into the finisher carding engine. Finisher carding engine, fed by the Scotch feed apparatus mentioned above, arranged with condenser delivery as on the finisher carding engine, mentioned above, in the Derby doubler system. Self-acting billies, fed by the condenser bobbins from the finisher carding engines, of either the Derby doubler system or the Scotch feed system, whichever is preferred for spinning into yarn.

The above machinery is used in the process of making the waste into yarns, and is as far as our manufactures go. The after operation of weaving the yarns into finished goods, such as cotton blankets, counterpanes, quilts, etc., is a separate industry altogether, and the particulars of the necessary machinery and the process the yarn undergoes previous to being made into finished goods must be obtained from the weaving-machinery makers.

Respecting your remarks re the amount of waste products from cotton mills in this district reworked into finished yarns or fabrics, we beg to state that this is a rather difficult question, owing to this particular industry being kept secret by the various manufacturers. We can, however, state that it is carried on to a large extent, there being at least seven mills in this district engaged in the waste trade, some of which have their own cotton-spinning mills and thus work up their own waste, while others are entirely waste mills—that is, they buy the waste from the different cotton mills and spin it for sale.

Trusting the foregoing information will prove of service to the United States Government, we are, etc.,

DOBSON & BARLOW, LIMITED,
W. HIGGINSON, *Director*.

Mr. Grinnell adds, March 13, 1900:

I inclose letters from Messrs. Edwin Butterworth & Co., large waste buyers in this district, and from Messrs. J. Hetherington & Sons, Limited, one of the largest manufacturers and shippers of cotton machinery to the United States.

FROM EDWIN BUTTERWORTH & CO.

POLLARD STREET,
Manchester, February 15, 1900.

W. F. GRINNELL, Esq.,
United States Consulate, Manchester.

DEAR SIR: Referring to your letters of the 27th and 31st ultimo, we have gone very seriously into the matter, and have pleasure in giving you the following information:

You ask to what extent the waste products of cotton mills is reworked into finished yarns or fabrics. In reply to this, we give you the actual production of waste for twelve months from two mills with which we have had contracts for all the waste they made:

No. 1 mill.	Cwts.	Qrs.	Lbs.
Taker-in fly	197	1	22
Spinners' sweeps	234	1	2
Card sweeps	186	2	26
Droppings	718	2	20
Cage fly	4	3	22

	Cwts.	Qrs.	Lbs.
Best fly	132	2	12
Strips	136	1	4
Roller ends	29	1	6
Stockings	136	0	26
Sec. fly	49	0	4
Ropes	27	0	0
Tares	510	3	4
Fanny	65	0	6
	2,430	1	14
Deduct tares and ropes	537	3	4
	1,892	2	10

No. 2 mill.

Flat waste	49	1	20
Taker-in fly	510	2	16
Stockings	91	1	16
Hard ends	50	0	8
Cotton rope	44	3	0
Old paper	8	1	20
Hard sweeps	198	1	20
Soft sweeps	153	1	12
Droppings	1,292	1	12
Strips	634	1	12
Roller ends	9	3	24
Fanny	160	2	24
Carr. fly	16	3	0
Cotton pickings	7	3	16
Tares	744	0	16
	3,972	2	20
Deduct ropes, paper, and tares	797	1	8
	3,175	1	12

You will see that we have deducted the amount of tares, ropes, and paper from the total quantity of each of these statements, as, of course, tares, ropes, and paper can not be respun into finished yarns or fabrics, but have to go to the paper mills to be made into paper.

No. 1 mill has 41,160 twist spindles and 25,600 weft spindles; it spins counts from 30s to 40s.

No 2 mill has 46,272 twists spindles and 22,800 weft spindles, and also spins counts from 30s to 40s.

You will notice that the production of waste from mill No. 2 is very much greater than from No. 1. This is to be accounted for either by the fact that No. 2 mill used a lower grade of cotton to begin with or that the machinery is better adapted for cleaning the cotton, and consequently produces more waste. The difference in the quantity of waste produced by these two mills will bear out what we stated to you personally, namely, that no hard-and-fast rule would be laid down as to the average amount of waste produced by the cotton-spinning mills. No. 1 mill was built in 1883 and No. 2 mill was built in 1875; but, of course, they have both had large alterations made in machinery since the mills were built.

With regard to your question as to where the machinery used in the various processes for reworking cotton waste is made, and also the kind of machines used,

and the names of the machines, we can only refer you to the makers of cotton-spinning machinery, as we have no knowledge at all on these points.

With regard to the question as to the quantities of waste imported from the mills of the United States, as we stated to you in conversation, the quantity of United States waste that has been exported into England for the last five or six years has been very small indeed; fully nine-tenths of all the United States waste that has been exported has been shipped to the continent of Europe, principally to the ports of Hamburg, Bremen, and Antwerp, and the following are the names of the chief exporters: Salamon Brothers; Felix Salamon & Co., of New York; Wolff & Son, of Stuttgart, Germany, who have a representative in Boston; Wilhelm Reis, Heidelburg, who also has a representative in Boston.

We think this is all the information that we are able to give you, and trust that it will be sufficient for your requirements. If there are any other questions that should arise, we shall be glad at any time, if capable, to give you the information wanted.

Yours truly, EDWIN BUTTERWORTH & Co.

FROM JOHN HETHERINGTON & SONS, LIMITED, MACHINE MAKERS.

VULCAN WORKS, POLLARD STREET,
Manchester, February 28, 1900.

W. F. GRINNELL, Esq.,
United States Consulate, Manchester.

DEAR SIR: With reference to your inquiry as to the use of waste in making various kinds of cloth, each maker employs a method and a special mixture of his own in the goods he produces. The accompanying general description, however, will show how the waste is used.

In the first instance, it is to be noted that there is a yarn or, as it is called in the United States, "filling" made from cop bottoms and hard waste broken up, so as to be spun upon a billy mule; such yarn is used for filling only, as the warp must have strength enough to hold the cloth together.

There is also a filling made from the waste that comes from the scutches, cards, and roving frames; this is better than the first mentioned, depending, of course, on the quality of waste used.

The superior qualities are usually mixed with a certain quantity of new cotton and spun into both warp and filling and made into coarse goods, such as table-cloths, quilts, and trouserings.

I may say that a very large proportion of such waste made in Lancashire is exported to Holland and the surrounding neighborhood, and there spun and manufactured.

Please note the term used here as weft is called "filling" in the United States.

Yours faithfully,

JOHN M. HETHERINGTON.

LIVERPOOL.

Consul Boyle writes, February 3, 1900:

After diligent inquiry, I am compelled to inform the Department that I am not able to secure the information desired. There are three towns in this consular district where the cotton-manufacturing industry is carried on, but there is no place in this district where the

waste product of cotton mills is reworked into finished yarns or fabrics. So far as I am able to learn, most of the cotton waste from British mills is reworked into finished yarns or fabrics in the consular districts of Manchester, Bradford, and Glascow.

BERLIN.

Consul-General Mason writes from Berlin, January 29, 1900:

So far as can be ascertained by personal inquiry or the examination of industrial directories, no manufacture of this kind exists in the consular district of Berlin, and I can find no one here who has any knowledge on the subject. The cotton-spinning industry of Germany is concentrated mainly at a few points, notably Mulhouse and Colmar, in Alsace; Crefeld, Barmen, Hof, Bamberg, Chemnitz, and at Rottweil and other places in the Kingdom of Wurttemberg.

I have endeavored to obtain the desired information by correspondence with cotton brokers and the managers of cotton-spinning mills in Bavaria and Saxony, but to all my inquiries there has been received but one reply—a respectful but terse and firm refusal to impart any information whatever. The subject is a technical one, and, in my opinion, can be satisfactorily investigated only by an expert who is not known to be connected with a United States consulate. It is now a fundamental principle among German industrials to give no technical information to consular officers of the United States.

It remains for me to report that the total import of cotton waste and its origin during the eleven months ended November 30, 1899, was as follows, it being, of course, impossible to ascertain what part of this import, if any, was used as material to be reworked into yarns and fabrics:

	Metric tons.
Belgium	1,307.5
France	3,587.1
Great Britain	8,914.4
Italy	943.4
Netherlands	5,818.9
Austria-Hungary	4,177.3
Switzerland	1,604.3
British East Indies	1,504.1
United States of America	4,861.6
Total	32,828.4
Imports for same period in 1898	31,364.3
Imports for same period in 1897	26,853.2

BREMEN.

Under date of April 12, 1900, Consul Diederich says:

There are but few cotton mills in this consular district, although Bremen is the chief cotton market in Germany. Besides, I find it extremely difficult to get any satisfactory information from the few concerns engaged in using cotton and manufacturing the raw material into yarns and various fabrics. No statistics of the import of cotton waste from mills in the United States are obtainable, as most of this is said to go to Hamburg.

One factory near Bremen reported that the quantity of such waste amounts to 10 per cent of the raw material used, but my impression is that this statement is mere guesswork.

The machinery used for reworking this waste into yarns, textiles, cordage, ribbons, wadding, and other articles made from cotton is manufactured in England and in Saxony, where most of the weaving and spinning machinery is made.

There is just one factory in my district, called a cotton-waste spinning mill, the proprietors of which could give us all the information needed, were they so inclined; but they claim that they were under heavy expense building up this new industry, paying very dearly for their experience, being thrown entirely upon their own resources, as there had been no like concern in operation from which they might have learned. They declare themselves willing, for 20,000 marks ($4,760), to not only show their plant to any interested parties, but to fully and thoroughly initiate them and teach them all they themselves know. This tuition fee may seem somewhat large, and perhaps might be reduced; but if I were anxious to find out all about cotton waste and how it can best be utilized for the purpose of investing money in a similar enterprise in the United States, I believe I would take such a course of instruction and pay for it.

HAMBURG.

Consul Pitcairn sends the following, January 16, 1900:

Waste products of cotton mills, which are largely imported from the United States into Germany via Hamburg, are not reworked into finished yarns or fabrics within this consular district, but are reshipped to the German and Austrian cotton-industry districts in Saxony, Rhine Province, and Bohemia.

The imports of cotton waste into Hamburg from the United States during the year 1898 amounted to 9,373,400 kilograms (21,467,-

072 pounds), valued at 4,546,420 marks ($1,082,048); but I am unable to obtain statistics of reshipments.

Under the circumstances, I am further unable to obtain reliable information as to the machinery used in the various processes for reworking cotton waste.

I have learned that there is a merchant in the city of Heidelberg, Baden, who buys a large amount of cotton waste; but I do not know in what manner he disposes of it.

ST. PETERSBURG.

Consul-General Holloway writes, under date of March 1, 1900:

The waste products of cotton mills in this consular district are reworked into finished yarns or fabrics, as is done in England, the Russian cotton mills being run by natives of that country.

The machinery used for the purpose is made by W. Tatham & Co. and J. Tomlinson & Co., both of Rochdale, Lancashire, England.

I have been unable to learn that waste from American mills is used in this consular district.

The apparatus for breaking up waste in order to respin it is called devils. After being treated by these devils, the waste goes through the spinning mill again and is then woven like ordinary cotton.

SCOTTISH WORKING GIRLS DISCARDING COTTON DRESSES FOR WOOLEN.

The progressive displacement of cotton goods by woolens for women's wear has become a matter of much importance to dealers in these classes of goods. This change, which has been going on for some years, was accelerated last November by the rise in the prices of cottons, compensating the rise in woolens, which began about a year ago. Among wholesale merchants in these lines, there is a difference of opinion as to how far the substitution will go and how long it will last, but there is agreement that "the public taste is off cottons." Working women and girls in all pursuits have been showing a strong preference for woolen dresses, apparently because they are thereby saved the trouble of washing the garments or the expense of having them washed. In this climate, woolen dresses and other garments of woolen goods are seldom too warm, even in summer, and the neatness of a laundered dress is a secondary consideration with the majority. A wholesale dealer in dry goods informs me that the market for the coarser and cheaper woolens has been greatly enlarged by this growing demand from the working women, and that he can

not get rid of his cotton cloths. He believes that in Scotland and in northern Europe generally the preference among working women for woolen dresses has become a permanent condition which the trade must recognize.

RUFUS FLEMING,
Consul.

EDINBURGH, *April 20, 1900.*

INDUSTRIAL CONDITIONS IN SCOTLAND.

There are signs of an abatement of activity in important lines of production in Scotland, notably at shipyards and iron and steel works. In the six weeks from March 1 to April 15, 1900, orders were slack compared with the same period of last year. The accepted explanation is the high prices, due chiefly to the increased cost of materials and fuel. Whether this condition will be temporary or of long duration, no one just now ventures to predict. In most fields of employment for skilled labor, the tendency of wages is no longer upward, and some apprehension is felt by the working people. In the building trades in every large Scottish city, the masters are demanding a reduction of the scale of wages.

From a business point of view, the years 1898 and 1899 were extraordinary. I refer specially to Scotland, although the statement may well apply, in a general way, to the whole United Kingdom. They were both "record years" for the principal trades, the only prominent exception being the distilling industry. Investment companies and other financial institutions, as well as the majority of mercantile houses, wholesale and retail, enjoyed a degree of prosperity considerably above that of the average year. As a rule, both the volume of business and the margin of profit were greater than usual. The total value of ships launched in Scottish waters in 1899 was not far from $70,000,000, and the value of the output of Scottish coal was $60,000,000, in each case the increase being more than 10 per cent over 1898, a year of great achievements in production. There was an equal rate of growth in the iron and steel trade; also, in some other branches of manufacture.

The effect of this prosperous condition of the industries upon the masses of the people is a matter of interest. The professional classes and tradesmen have, on the whole, fared well. Skilled labor has had full employment, and, excepting printers and workmen in a few other trades, they have had wages from 8 to 10 per cent higher than the rate which obtained in 1897. But in Edinburgh, during the past two and a half years, the average advance in rents has been 25 per cent, and for a year the prices of meat and other food have been 10 per cent above the average prices of 1897. There has also been a material increase in the cost of clothing, especially of cotton goods.

Household coal, delivered to small consumers, is quite 50 per cent higher than it was a year ago and costs not less than $6 per ton. In a word, owing to the increased cost of living, the earning power of even the best-paid skilled labor has diminished.

RUFUS FLEMING,
Consul.

EDINBURGH, *April 19, 1900.*

BRITISH EXPORTS OF EARTHENWARE TO THE UNITED STATES.

The export trade of the Tunstall consular district with the United States for the quarter ended March 31, 1900—so far as values are concerned—seems to be improving, the increase over the corresponding quarter of 1899 being no less than $74,633.19, or more than 10 per cent.

The number of packages of pottery shipped shows a falling off of 2,600.

The average value per shipment in 1899 was $707.62, and in 1900 it was $771.59.

The reasons for the decrease in the number of packages and increase in value of exports is explained by the quality of ware now being shipped. Less of the common ware, such as known to the trade as "C. C." (cream color) and "white granite," and more of the printed and highly decorated earthenware and china is finding a market in the United States. This goes to show that our goods must now be taking the place of the ordinary so-called "white stoneware" which used to come from this district in such large quantities. The fact also of an advance in prices in both plain and decorated "white granite" and "semiporcelain" goods, furnishes an additional reason.

The several leading manufacturers of the best quality of the last-named goods have decreased their discounts from the "standard gross price list" as follows:

Goods.	Discounts.
White granite:	
Run of kiln	From 62½–5–5 per cent to 60–5–5 per cent.
Thirds	From 75–5–5 per cent to 70–5–5 per cent.
Semiporcelain:	
Plain	From 57½–5–5 per cent to 55–5–2½ per cent.
Thirds	From 70–5–5 per cent to 67½–5–2½ per cent.
Plain printed:	
Cheap, run of kiln	From 52½–5–5 per cent to 47½–5–2½ per cent.
Still, on glaze or under glaze	From 45–5–5 per cent to 40–5–2½ per cent.
Thirds	From 62½–5–5 per cent to 57½–5–2½ per cent.
Flow	From 40–5–5 per cent to 37½–5–2½ per cent.

Other classes of goods—of which there are a great variety—while not specially named, have advanced in price in like ratio. In all classes of printed goods, the cash discounts have been cut down from 5 per cent and 5 per cent to 5 per cent and 2½ per cent. A further advance in price in the best quality ware, to come in operation on May 1, 1900, is proposed by the leading manufacturers, and the following are the discounts to be deducted in the different kinds of goods:

	Per cent.
White granite	55 -5-5
Semiporcelain, plain	50 -5-5
Luster band and sprig	30 -5-5
White and gold	25 -5-5
Plain printed:	
Still—	
No gold	37½-5-5
Gilt handles, no dishes, bakers or cups, gilded	32½-5-5
Gold line	27½-5-5
Gold-traced embossments or broken line	25 -5-5
Illuminated	22½-5-5
Flow—	
No gold	35 -5-5
Gilt handles	30 -5-5
Gold line	25 -5-5
Gold-traced embossments or broken line	20 -5-5
Gold illuminated	17½-5-5
Blue or mulberry—	
No gold	32½-5-5
Gilt handles	27½-5-5
Gold line	22½-5-5
Gold-traced embossments or broken line	20 -5-5
Embossments or gold illuminated	17½-5-5
Transfers:	
Gilt handles	25 -5-5
Gold-line or gold-traced embossments	20 -5-5
No gold	30 -5-5
Cheap print:	
Still	42½-5-5
Still, full gilt	32½-5-5
Flow	40 -5-5
Flow, full gilt	30 -5-5
Tinted dinner ware	30 -5-5
White P. G. thirds	62½-5-5
Printed thirds, still and flow	55 -5-5
White granite lump	70 -5-5

All crates and straw are subject to discounts of 5 per cent and 5 per cent.

The causes of the advance in prices are increase in cost of labor and in the different commodities which enter into the manufacture of pottery. As for example:

Articles.	Former price.		Present price.	
	£ s. d.		£ s. d.	
Coal.....per ton...	0 8 6	$2.07	0 13 0	$3.16
Slack.....do.....	0 5 0	1.22	0 8 0	1.95
Lead.....do.....	0 18 6	4.50	0 24 0	5.84
Ball clay.....do.....	0 16 0	3.89	0 18 0	4.38
China clay.....do.....	0 22 0	5.36	0 24 0	5.84
Wet flint.....per peck...	0 0 4	.08	0 0 4¼	.085
Borax.....per ton...	14 10 0	70.56	17 0 0	82.73

At the present time, a strike of potters, printers, and flat and hollow-ware pressers is pending here. The printers are holding out for an increase of 1d. (2 cents) per dozen articles of ware printed, while the pressers are demanding an advance of 10 per cent. The general opinion here is that the masters will not give way, and a lockout likely to last some weeks is expected.

WM. HARRISON BRADLEY,

TUNSTALL, *April 27, 1900.* *Consul.*

TESTING FIREARMS IN LIEGE.

The Government testing of all firearms manufactured in Belgium is of more importance than is generally recognized at first thought, for it does away almost entirely with accidents caused by the bursting of guns in the hands of sportsmen, and prevents manufacturers imposing dangerous and worthless guns on the public. The test of the cheap double-barrel breech-loading shotgun manufactured in Belgium and sold in the United States at from $10 to $12 is just as thorough and complete as the one that sells for $150, and the same is true of all the guns made in this country.

Liege being the leading firearms-manufacturing city of the world, it has the most extensive as well as the most complete proving station. The Government has provided very strict rules and regulations to govern it, and the director, Mr. Jules Polain—to whom I am indebted for much of the information given in this report—is very jealous of its reputation.

The law of the land makes it a crime to sell, offer for sale, or to be found in possession of a gun, pistol, or any kind of firearm not bearing the proper Government test marks, or a gun of a different caliber than that stamped on the barrel; the fine is not less than 50 francs ($9.65) nor more than 100 francs ($19.30), and the arm in question is confiscated.

It is also a crime severely punishable for anyone to put any testing marks on firearms, or even to mark the caliber, to add the words "choke bored," or anything of a similar character.

Single-barrel muzzle-loading shotguns are tested but once, while a double barrel is tested twice; a single-barrel breech-loading shotgun is tested twice, while a double barrel is tested three times. The guns having more than one test have the barrels tested before they are fastened together, and again when breechblock is finished. In all cases, at least double the usual charge of powder is used, and that of an extra-fine quality, which is carefully tested three times each week; and one-third more shot is used than ordinarily.

The loss by testing varies from 1 to 5 per cent; the largest percentage of loss is in the higher priced and lighter guns. The same quality of steel is used for all barrels, but the difference comes in the workmanship and weight.

The cost of testing is paid by the manufacturer, and is 1 franc (19.3 cents) for the three tests.

To give an idea of the growth of the firearms industry in Liege, I note the total number of tests made at the proving station for the past three years: In 1897, there were 1,712,800; in 1898, 1,968,708; and in 1899, 2,238,326; showing in two years an increase of 525,526 tests.

I attach hereto a kodak picture* of a few of the gun barrels bursted at the testing station, showing that they burst at different points along the barrel; but I am informed that it is most common near the breech. Some of the barrels are badly demoralized, while others are only slightly damaged.

ALFRED A. WINSLOW,
Consul.

LIEGE, *April 7, 1900.*

NEW ENTERPRISES IN THE RIVIERA.

In his annual report on the commerce and industries of Nice for 1899,† Consul Van Buren says, in part:

Owing to the efforts of the deputy for Nice, the plan of connecting Nice with the Italian frontier via Sospel has made considerable progress. The various ministries and the military authorities interested are now busily engaged in elaborating plans, which, when fully agreed upon, will be submitted to the Paris-Lyon-Meditérranée Company, which is to build and run the line.

I am informed that the Compagnie Générale des Eaux, which has the monopoly of furnishing the water supply of Nice, has obtained possession of a copious spring in the Department du Var, and that it intends to build an aqueduct to Nice. It is calculated that four

* Filed for reference in the Bureau of Foreign Commerce.
† Received too late for publication in Commercial Relations.

or five years will be required to complete the work, and it is claimed that the town will then have a water supply second to none in the world.

The building of the new electric traction system by the Thomson-Houston Company is now completed and one or two lines are running. The importance of this enterprise can not be overestimated.

During the last year, the Compagnie Électrique de la Meditérranée has been established at Cap d'Aglio, near Monaco, with a capital of 500,000 francs ($96,500). Its object is to utilize water power and to furnish electric light and power in its vicinity.

I can not report that any direct importations of American goods have been made during the year. There are evidences, however, of a limited quantity of such goods having entered the retail trade here.

DEMAND FOR SULPHATES IN SPAIN.

Consul Washington sends from Valencia, April 24, 1900, copy of a letter from J. B. Carles & Co., bankers,* as follows:

DEAR SIR: We shall be very much obliged if you will kindly cause the following notice to be put in an efficient way before the manufacturers and merchants of America:

Sulphate of ammonia, superphosphates of lime, and nitrate of soda are three articles extensively used in Spain, and particularly in the province of Valencia, for the composition of manure.

Some 50,000 tons of sulphate, 8,000 tons of superphosphates, and 20,000 tons of nitrate are annually imported into Valencia, mostly from Great Britain. Comparing the present prices of coal in Great Britain with those in the United States, we should think the latter country ought to be able to compete easily for the supply of these articles to Spain, notwithstanding the higher transport rates; and even this difference could not be very large, as we should be prepared to take full steamer cargoes of 3,000 to 5,000 tons, once the trade started; and in the meantime the boats trading regularly between the United States and Italy or Marseilles would no doubt be glad to call at Valencia.

Steamers have no dues of any kind to pay at Valencia—not even harbor dues—all being paid by receivers of the cargo; and the freights are settled in cash at current rate of London exchange or in bankers' check on London. We would pay ready cash for the goods in London through our bankers—Credit Lyonnais or Comptoir National d'Escompte de Paris—against shipping documents, which would have to comprise official certificates of weight and analysis.

We solicit sample offers from firms of high standing, same to give cost and freight Valencia, in English money, per ton of 1,016 kilograms (2,240 pounds) net; the marine insurance to cover particular average. What is wanted is sulphate of ammonia of good gray, yellow, or brown color—good gray preferred—24 to 25 per cent of ammonia or 20 to 21 per cent of azote-superphosphates of lime soluble in water, or 10 to 20 per cent soluble in water and citrate. All the goods should come in strong, single bags of 100 kilograms (220.46 pounds) gross each; tare, 1 per cent. Our principal seasons are January to June and October to January.

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*Telegraphic address: Carles, Valencia. Universal code used.

SHORTAGE OF ORANGE CROP IN VALENCIA.

A shortage in the orange crop of Valencia this year, and the certainty, since the frosts of early March in this district, of a still shorter crop next year, offers an opportunity for our producers to take advantage of the demand and of the greatly increased price in England and Germany. The total export of oranges from this district last season amounted to 4,000,000 cases (average of 556 oranges in case, weighing about 150 pounds net). Shipments to date this year have reached 2,600,000 cases and are estimated at 3,000,000 cases for the entire season, which is not expected to last more than another month. A number of the oranges remaining have been secured by speculators to forward overland to Paris, where high prices are expected during the exposition.

The visible scarcity has already produced an advance in prices all round. A good case of oranges can not be obtained here at present under 24 pesetas ($3.43) free on board, while prices in England, which last season averaged 10s. to 12s. ($2.44 to $2.92), have now advanced to 15s. to 18s. ($3.65 to $4.38) a case, and will undoubtedly be very much higher.

I would also point out to our exporters who wish to compete with Valencia shippers of oranges that the Valencia orange case of today is not the slovenly got-up package it used to be, but a work of art, skilled labor having been employed in the selection and packing of the fruit.

HORACE LEE WASHINGTON,

VALENCIA, *April 7, 1900.* *Consul.*

INSPECTION OF FOOD IN GIBRALTAR.

Consul Sprague, of Gibraltar, under date of April 18, 1900, transmits official notice of an ordinance to amend a sanitary order of 1883, with regard to the insoection of food, which is summarized as follows:

The commissioners, their officers, or the sanitary inspector may examine any animal landed from a ship or otherwise brought into Gibraltar to be slaughtered or prepared for sale for food; they may also enter premises to inspect animals exposed for sale and intended for food, as well as any carcasses, meat, poultry, game, flesh, fish, fruit, vegetables, corn, bread, or flour, and every other article intended for the food of man and exposed for sale; if any such animal or article appears to be unsound, or unfit for food, it shall be seized and carried to a justice. If the justice decides the animal or article to be unfit for food, he must order the same to be destroyed. The person in whose possession or on whose premises the same was

found shall be liable to a fine not exceeding $250 for every animal or article condemned, or may be imprisoned for a term of not more than six months, with or without hard labor.

When it is shown that the article seized was purchased in such condition as to be liable to condemnation, the previous vender will be liable to the punishment mentioned, unless he proves that at the time he sold the said article he did not know its condition. When a person is convicted of an offense twice within twelve months, the court may order a notice of the facts to be affixed for twenty-one days to premises occupied by him. A person having in his possession any article unfit for food may give written notice to the sanitary authority requesting its removal, and the sanitary authority must cause it to be removed.

NEW STEAMSHIPS.

The *Grosser Kurfuerst*, built by F. Schiban, of Danzig, for the North German Lloyd, after successful trial trips, sails to-day from Bremen for New York on her maiden trip. She has a length of 585 feet, a breadth of 62 feet, and a registered tonnage of 13,200 feet. Her two quadruple engines develop 10,000 horsepower, and her speed is 17 miles an hour. Special attention has been devoted to the quarters for other than first-class passengers.

The steamships *Minneapolis* and *Minnehaha*, of the American Transport Company, have been built, and two more steamers of precisely the same dimensions—600 feet between perpendiculars, 630 feet over all, 65.5 feet beam, and 39.7 feet depth—are being built especially for the transportation of first-class passengers between London and New York, carrying no second-class or steerage passengers. They are said to be the largest vessels, with the exception of the *Great Eastern*, ever seen in the Thames.

FRANK D. HILL,
AMSTERDAM, *May 5, 1900.* *Consul.*

The following, dated May 3, 1900, has also been received from Mr. Hill:

The new ships of the Cunard Line—the *Ivernia*, which was built at Wallsend-on-Tyne by Messrs. Swan & Hunter, and the *Saxonia*, which has just been turned over to the owners at Liverpool by Messrs. John Brown & Co., of Clydebank Works, Glasgow—are among the largest afloat.

The length of the *Saxonia* is 580 feet between perpendiculars or 600 feet over all, her greatest width 64 feet 4 inches, and her depth to the shelter deck 49 feet 4 inches. Above the shelter deck, which

corresponds to the upper deck of many vessels, there are three more decks—the promenade deck, on which is the first-class accommodation; the boat deck, where eighteen boats are carried; and the navigation deck. Below the shelter deck there are the upper, lower, main, and orlop decks. From the top of the wheelhouse on the navigation deck to the water is a vertical distance of 65 feet when the ship is loaded to a depth of 29 feet draft, the measurement from that point to the keel being 94 feet, and from the keel to the top of the funnel 145 feet. The hull is made of a number of water-tight compartments, divided by bulkheads reaching to the upper deck, and a double bottom runs the entire length of the ship and, together with some other tanks, supplies 4,750 tons of water ballast.

The gross register of the *Saxonia* is 13,988 tons, her cargo capacity is 800,000 cubic feet or 20,000 tons measurement, and her weight fully loaded is about 25,000 tons. As a troopship, she can carry 200 officers, 3,500 troops, and 10,000 tons of stores; as a cavalry ship, she can convey 200 officers, 1,000 horses, and 1,000 men; and as a horse transport, she has accommodation for 1,900 horses and 400 troops. Her bunkers and reserve bunkers are of sufficient capacity for a supply of coal for forty days' steaming at 15 knots. She will carry as a regular liner 150 to 200 first-class passengers, the same number of second class, and from 1,700 to 2,000 third class. These last are placed in airy cabins provided with water and basins; they sleep in bunks arranged in two tiers only; excellent baths and lavatories are said to be at their disposal; their food is served in saloons, with fixed tables and cushioned seats; space is provided between decks for promenade; and the men have a smoking room and the women a boudoir containing a piano. Nevertheless, steerage rates are lower than formerly.

The ship has two screws driven by two sets of quadruple-expansion engines, which are balanced on the Yarrow, Schlick & Tweedy system. Steam for the main engines is supplied by nine boilers. Howden's system of forced draft is in use. Using forced draft, the engines on the trial trip indicated 11,400 horsepower, and the mean speed realized was 16.6 knots, due allowance being made for the tide, etc. Under natural draft, the horsepower was about 10,000 and the mean speed 15.8 knots.

Under date of May 9, Mr. Hill adds:

The new steamer *Koning Willem II*, of the Netherlands Steamship Company, of this city, will make her maiden trip to the Dutch East Indies on the 12th of May, 1900. The steamer was built by

the Fyenoord establishment, is 392 feet long, 45 feet broad, and 29 feet deep. The engines are of the quadruple-expansion system. The boat can carry 72 first-class and 40 second-class passengers, besides from 100 to 150 soldiers, and her loading capacity is 4,000 tons. The estimated speed will be 14 miles per hour.

HUNGARIAN SHIPPING.

The law of 1893 concerning the subsidizing of Hungarian shipping having partly gone out of force at the end of the year 1898, and not having been renewed since that time, Hungarian shipowners are seriously planning to remove from Fiume to Trieste. The Government has been exempting such owners from taxation, on condition that old wooden sailing vessels should be replaced by new iron-built ones. This condition has not been fulfilled, but instead the Minister of Finance has daily received petitions not to assess until a new law shall have been passed, and so far these petitions have been listened to.

Hungary is planning to contract for a third steamer in the Venice-Ancona-Fiume traffic, and the Adria Steamship Company intends to increase the number of sailings to Marseilles, as well as to establish direct sailings to North Africa, Spain, Portugal, and North America. For the latter, four large, new ships are necessary. The sailings to America are carried on at present by the Austro-American Company, belonging to Schenker & Co., forwarding agents, under contract with the aforesaid Adria Company.* From the previous income, the company has only been able to build four new steamers in place of vessels lost; the last will be launched next month. If the Government approves, the company will raise its capital and the Government will pay something more than the present subsidy of 1,400,000 crowns ($284,200), and the Adria will then be able to compare in every respect with the Austrian Lloyd.

Last summer, an Austrian shipbuilder offered to build a shipyard in the Hungarian port of Porto Re, if he should receive a grant of land for that purpose. This offer, however, conflicted with the plan of the Hungarian Minister of Commerce to rebuild and enlarge the present shipyard in Bergudi, adjoining Fiume, at a cost of 5,000,000 crowns. This will be provided with docks, and here not only merchant steamers, but also war ships, will be built, inasmuch as the

* There are also direct sailings between New York and Fiume, made by steamers of the New York and Mediterranean Steamship Company (Fiume agent, G. Venutti), which stop at Fiume, Hungary, on their trip between New York and Trieste, Austria.

Minister of War has promised to support the shipyard with Government orders. It is expected that the Hungarian Minister of Commerce will hold a conference for the purpose of deciding whether this shipyard shall be built entirely at the Government's expense or partly with private capital.

FRANK DYER CHESTER,
Consul.

BUDAPEST, *April 26, 1900.*

AMERICAN STEAMSHIP LINE BETWEEN TAHITI AND SAN FRANCISCO.

During the extraordinary session of the general council of this colony, which was convened yesterday for the purpose, a contract was awarded to the Oceanic Steamship Company, of San Francisco, for the establishment of a steamship line between Tahiti and San Francisco for the transportation of mails, passengers, and freight.

The essential features of the contract are as follows: For the annual sum of 156,000 francs ($30,000 in United States gold) to be paid by the Tahiti government and exemption from port charges, the Oceanic Steamship Company is to operate an American steamship of about 3,000 tons gross register, performing eleven round trips per annum at an average speed of not less than 13½ knots. The contract is awarded for a period of five years from the first voyage, which is to be made not later than November 1, 1900, and earlier if possible.

It is the purpose of this company to use a first-class passenger steamship and to make the service attractive in all particulars, and it is anticipated that this will become a favorite route of travel when the charm of the climate and scenery of Tahiti becomes known.

The inauguration of this line will give great impetus to United States trade with Tahiti and, in general, with other islands of eastern Polynesia. The Pacific coast of the United States will be particularly benefited, as perishable goods—such as fruits, vegetables, and meats—which now are received exclusively from New Zealand, will then come from San Francisco.

For over thirty-four years, a regular monthly sailing-vessel service has been maintained between Tahiti and San Francisco. This direct means of communication developed a trade insignificant at first, but amounting some ten years ago to over 50 per cent of the entire business of this colony. Since then, the proportion of trade has remained about the same, notwithstanding the establishment of the steam line to New Zealand and the fact that the sailing vessels are

entirely inadequate as a means of transportation between this port and San Francisco.

It may be predicted that if the Oceanic Steamship Company continues in this business for five years, the trade between the United States and Tahiti will not only experience a great extension, but that the proportion of value will increase from 50 to 75 per cent.

The Union Steamship Company (British), of New Zealand, which now operates a steamer between Tahiti and Auckland, has for some time past desired to extend its service through to San Francisco; and, indeed, at this moment, it has a proposition before the local government offering to perform the service for an annual subsidy of $50,000.

J. LAMB DOTY,
Consul.

TAHITI, *March 10, 1900.*

TRADE OF ZANZIBAR.

The business of the commercial year 1899 (reckoned in Zanzibar from January 1 to December 31) shows a large increase, both in imports and exports, over the previous year. The figures show a very gratifying gain in the trade with the United States. This traffic may be itemized as follows:

Imports from the United States.

Articles.	Value.	Articles.	Value.
Crockery and glassware	$492	Petroleum	$141,000
Carriages	1,010	Piece goods	347,666
Groceries	9,225	Woodwork	102
Hardware	1,005	Total	505,034
Machinery	3,377		
Miscellaneous	1,357		

Exports to the United States.

Articles.	Value.	Articles.	Value.
Chiles	$9,483	Ivory	$265,969
Cloves	47,239	Shells	2,734
Gum copal	20,132	Total	422,317
Hides	76,760		

The total valuation of ivory exported from Zanzibar for the year 1899 was $636,561, of which amount $265,969 went to the United States. Only $255,635 worth of ivory was exported from this port to all the European countries during the year, or $10,334 less than was shipped direct to the United States. These figures show that more

than two-fifths of all the ivory exported from Zanzibar in 1899 went to our country.

There was shipped from this port during the year $27,097 worth of chiles, of which $9,483—or more than one-third—went to the United States.

Of the $1,050,431 worth of cloves exported, only $47,239 worth was shipped direct to the United States.

The chief articles of import into Zanzibar are petroleum and piece goods. The total valuation of piece goods imported in 1899 was $1,839,246, of which amount $347,666 came from the United States—less than one-fifth of the total. Practically all the petroleum consumed in Zanzibar comes from the United States. The valuation of petroleum imported last year was $147,560, only $6,560 worth of which came from other countries than the United States.

The Zanzibar customs office groups all the European countries under the head of Europe, which prohibits making comparisons of trade between the United States and those countries most largely engaged in traffic with this port.

The following is a comparative statement of the total exports and imports of Zanzibar for the year 1899 by countries:

Country.	Imports.	Exports.
Europe	$1,772,364	$628,690
America	505,069	422,318
Asia	2,696,377	752,508
Africa	3,009,222	4,763,508
Total	7,983,032	7,567,033

In the year 1897, the total import from the United States into Zanzibar was $273,825; the total for 1898 was $394,995, an increase of $121,130; for 1899, $505,069, an increase over the previous year of $110,114. This shows a total increase in American trade with the island in the past two years of $231,244. The total value of goods exported to the United States from Zanzibar in 1897 was $222,800; in 1898, $285,460, an increase of $62,660. In 1899, the total was $422,318, an increase over that of 1898 of $136,858, and an increase of $199,518 in the two years last past.

CLOVES.

The clove supply of the world is produced on the islands of Zanzibar and Pemba, which constitute the principal producing territory of the Sultanate. Cloves were at one time the only economic product supplied to foreign countries by Zanzibar; and, although an effort has been made in recent years to encourage the native agriculturists to cultivate a variety of crops, cloves are still, and prob-

ably always will be, far more extensively cultivated than any other product. The following table shows the quantities of cloves brought into the Zanzibar market from the islands of Pemba and Zanzibar during the last ten years:

Year.	Quantity.	Year.	Quantity.
	*Frasilas.**		*Frasilas.**
1890	509,862	1895	537,857
1891	393,640	1896	356,881
1892	357,609	1897	331,630
1893	367,457	1898	368,850
1894	511,690	1899	570,600

*1 frasila=35 pounds.

From these figures, it will appear that the 1899 crop was the largest ever produced, being 8,061,259 pounds in excess of that of 1898. It may be significant to remark, in this connection, however, that notwithstanding the large crop of cloves produced, the clove plantations, particularly in Zanzibar Island, are not being cultivated in a way to keep them up to the past standard. The labor question is the great difficulty. Since the prohibition of the importation of slaves, the supply of labor has diminished with increasing rapidity each year, and since the decree of 1897 granting freedom to the slaves, the labor supply has been quite inadequate to meet the demands.

An effort is made, wherever it is possible, to get the freed slaves to settle on the plantations of their old masters and work for them, under voluntary agreement, either for fixed wage or by giving up a certain number of days to their employers and devoting the remainder of the time to the cultivation of plots of ground allotted to them for that purpose.

It would seem, however, that it is impossible to get the native to take a genuine interest in his work or to keep at it for a longer period than will enable him to exist the rest of his time in idleness. This condition, if continued, will result in greatly diminishing the clove crop, and will also have the effect of putting upon the market an inferior article; for no matter how generous nature may be with a country, it will not produce satisfactorily without cultivation.

COTTON GOODS, ETC.

About one-fourth of the total imports into Zanzibar in 1899 consisted of piece goods, a trade which always has been, and probably always will be, far more important than any other. There is every reason to believe that the spread of civilization in the interior of Africa will increase the demand.

I quote below portion of the report of the British acting consul-general at Zanzibar, Mr. Basil S. Cave, for the year 1898, which is of interest:

Great Britain has done fairly well in white shirtings, grays, and colored cloths, both printed and woven; but in the important branch of "Americani,"* an unbleached cloth which is in great demand in the interior of Africa and forms in some parts of the country the only currency, Manchester has not yet succeeded in competing successfully with the United States. The reasons for this were stated at length in last year's report. The efforts that have been made to push English products in Uganda have not had the desired results; but a cloth recently imported from Canada, where the milling process appears to be the same as that adopted in America, has been far more readily accepted, and a large order for it has recently been sent home. The imports of Americani have been larger than usual, in spite of the fact that prices have risen nearly 20 per cent. The supply of "kangas" (the printed cotton handkerchiefs worn by native women) has been confined, as heretofore, almost exclusively to Holland. The British manufacturers are apparently able to compete with the Dutch as far as their prices are concerned; but, owing to more expensive methods of printing, require such large numbers to be taken of each separate design that importers, to avoid the risk of having a considerable portion of their stock left on their hands when the fashion changes, prefer to place their orders in Holland.

The demand for brass and copper wire has fallen off recently, owing to the advance of the Uganda Railway and the consequent decrease in the numbers of caravans which on their journeys into the interior use wire as one of the principal articles for barter purposes. What does come is almost entirely of continental manufacture, which, though inferior in quality, is equal to the home-made article in appearance and decidedly cheaper. Less English cement is imported every year, a cheaper quality from Belgium having to a large extent taken its place. For corrugated iron sheets, which come mostly from London, there has been less demand than usual, owing to the absence of any extensive building operations. Germany has a monopoly of most other kinds of hardware. Soap is still shipped principally from Germany. There is a fair trade in candles, the most popular, because the cheapest, being Belgian stearin. A fairly large business is done in enameled ware from Austria.

Only a small percentage of the imports of provisions comes from the United States. This is accounted for by the fact that there are no steamship lines running from the United States direct to East African ports. This lack of transportation facilities, which makes transshipment necessary and also adds materially to the expense, is a serious drawback to trade between the two countries. Large quantities of canned goods are consumed in this market, which under more favorable conditions might easily be obtained from the United States.

The piece goods and petroleum, which come largely from America, are brought out in sailing vessels.

R. E. MANSFIELD,

ZANZIBAR, *April 2, 1900.* *Consul.*

* By "Americani" is meant cotton goods from America.

COMMERCE WITH MADAGASCAR.

According to a statement published by the Journal Officiel de Madagascar, commerce has increased considerably during the past four years. The total of importations, which in 1896 stood at $2,699,671, is now (in 1899) $5,387,907, or an increase of $2,688,236.

Of these figures, French importations—especially cotton tissues, ordinary wines, alcohol, wheat flour, and rice—have monopolized nearly all the increase. The cotton tissues of French origin, which in 1896 represented only a third of the imported tissues, to-day constitute nine-tenths of them.*

The exportations also have grown considerably in the last four years, although their total represents hardly a fourth of that of the importations. They figured $695,949 in 1896; in 1899 they total $1,552,770, of which $960,553 represent exportations to France or her colonies and some $500,000 those to foreign countries. The increase in exports has affected principally india rubber, rafia, wax, oxhides, gold (in ingots and dust), and vanilla.

India rubber, which is by far the most important export from Madagascar, has reached a total of $427,138, of which $202,145 has been imported by France and $224,993 by other countries. In 1896, there was imported into France india rubber to the value of $31,626 only. The importations of rafia into France have risen from $59,880 to $161,878; those of wax from $7,000 to $75,824; while skins have accounted for an increase from $7,749 to $87,091. Finally, the importations of gold in bullion, which did not figure at all in 1896, represent in 1899 a value of $65,855, and those of gold dust have risen from $17,322 to $139,545.

ROBERT P. SKINNER,
Consul.

MARSEILLES, *April 25, 1900.*

CONSUMPTION TAX IN MADAGASCAR.

Consul Gibbs writes from Tamatave, April 3, 1900, that a consumption tax has been established in Madagascar and dependencies.

The decree was ratified February 22, and materially increases the tax upon alcoholic beverages, cotton goods, salt, etc., and repeals the former municipal tax of 1 per cent.

* NOTE BY CONSUL.—Tariff discrimination virtually closes the market to all but French cottons.

The new taxes are on the following articles:

Merchandise taxed.	Unit of collection.	Tax.	
		Francs.	
Beer:			
Casks	Hectoliter*	5.00	$0.96
Bottles	Bottle	†.10	.019
Champagnes and still wines	do	.50	.096
Do	Half bottle	.25	.048
Cider, etc	Bottle	†.10	.019
Cloths of all kinds	Value	5 per ct.	
Liqueurs:‡			
Casks	Hectoliter	60.00	11.58
Bottles	Bottle	1.00	.193
Matches	Kilogram, net§	3.00	.57
Olive oils	do	.15	.028
Opium	do	15.00	2.89
Other vegetable oils	do	.10	.019
Petroleum and other mineral oils for lighting purposes	do	.10	.019
Powder, gun, blasting, fireworks, etc	do	1.00	.193
Preserved vegetables (canned)	do	.10	.019
Playing cards	Pack	.30	.057
Refined sugar	Kilogram, net.	.05	.009
Rums, brandies, absinth, other drinks and alcohols of all kinds, including soft wines, grape wines, and all other wines not natural.	Hectoliter of pure alcohol.	200.00	38.60
Salt of all kinds	Kilogram, net.	.05	.009
Tobaccos:			
Leaf and manufactured	do	1.50	.28
Cigars and cigarettes	do	7.50	1.44
Other	do	3.00	.57
Wines (ordinary claret):			
Of 14° test and above—			
Casks	Hectoliter	‖5.00	.96
Bottles	Bottle	†.05	.009
Of more than 14° test, and wines of liqueurs—			
Casks	Hectoliter	15.00	2.89
Bottles	Bottle	†.15	.028

*1 hectoliter=26.417 gallons.

†Receiver of a quantity of over 50 centiliters (0.338 fluid ounce) and less considered as equal to 1 liter. If the quantity is less than 50 centiliters, the duty will be reduced one-half; if more than 1 liter, the duty will be collected upon the real amount.

‡As interpreted by the French customs tariff.

§1 kilogram=2.2046 pounds.

‖Or 5 centimes (1 cent) per liter, or 1.0567 quarts.

EXPOSITION IN SENEGAMBIA.

An exposition has just been held at Dakar which was of interest, as it was probably the first of its kind in this colony, if not in inter-tropical Africa.

The exposition was opened with ceremonies and speeches appropriate for the occasion on the 15th of March, and closed on the 14th of April. There were exhibited, among other things, the animals of the country, including ostriches; specimens of rubber, gums, nuts,

and most of the other products; fish and native gear for catching it; native jewelry, some of which is very fine; hides and skins, including bird skins for mounting on hats; furniture made in the country; native woods, etc. All the objects were artistically displayed in the beautiful park at Dakar, and, in order to encourage the natives to visit it, no entrance fee was charged. The exposition was very successful.

It might be noted here that the government is doing everything to encourage agriculture in the colony, and has imported seeds from the rubber trees of Brazil for free distribution among those willing to plant them.

P. STRICKLAND,

GORÉE-DAKAR, *May 1, 1900.* *Consul.*

TAXATION IN THE CANARY ISLANDS.

Taxation is of two classes: First, national, or devoted to the purposes of the treasury (tesoro); second, municipal, or devoted to the expenses of the town and neighboring roads (caminos vecinales, and not high roads, which belong to the State).

Taxes are regulated according to the population of the parish, town, or district. In the case of taxable salaries, the percentage varies according to the amount of the salary.

NATIONAL TAXATION.

(1) *Farms and houses.*—Farms are taxed in accordance with their annual value, which is estimated by the authorities of the parish or jurisdiction. Land is valued as first class, second class, and third class, of irrigated or of dry. First class in one locality may only equal second-class land in another, and be taxed accordingly.

Houses are taxed on their estimated rental, which may be higher or lower than the actual, and a deduction of 25 per cent is allowed for repairs, etc.

The rate on houses is about 22 per cent in the towns; on farm-houses, from 2 to 3 per cent less. There is no direct taxation of crops.

(2) *Industries and commerce.*—A factory is taxed according to the number of the machines employed and the population of the neighborhood; the result of this method being that there are hardly any factories.

Stores and shops are divided into nine classes and are taxed in a constantly diminishing scale. The classes are:

(1) Wholesale venders of groceries, steel, and iron.

(2) Wholesale venders of manufactured stuffs and silks.

(3) Venders of ready-madei ronmongery, woven goods, and flour.
(4) Cafés, restaurants, venders of woolen cloth and salted fish.
(5) Venders of sewing machines, lamps, rice, and native wines.
(6) Venders of books, stationery, eatables, and watches.
(7) Venders of hats and of salt (retail) and hotels.
(8) Peddlers and venders of beer, aërated waters, and porcelain.
(9) Venders of earthenware, seeds, and matting; and carpenters.

VARIOUS TAXES.

(1) Cedulas personales, a species of passport, which all must hold and which must be renewed annually at a cost of from 0.50 to 100 pesetas* (33⅓ per cent of this belongs to the municipality). In July, 1898, the price of cedulas was temporarily raised on account of the expenses of the war with the United States.

(2) On the salaries of State or municipal officials, and on fees for the registration of property.

(3) On Government contracts, which are taxed in accordance with their importance (deductions being made when paying the contractor).

PORT CHARGES.

Port charges are as follows:

Pilotage, 30 pesetas on entrance and departure and 50 per cent more at night. At Grand Canary, pending a settlement of regulations, the charge is 16.88 pesetas.

Clearance, 16.25 pesetas; board of health, 15 pesetas, in addition to sundry small charges for stamps on manifest, etc.

Arrivals are charged per ton of 1,000 kilograms landed: Coal, 0.25 peseta; goods from Europe, 1 peseta; from Spain or the West Indies, 0.75 peseta; from other ports, 2.50 pesetas; passengers, 0.75, 0.50, and 0.25 peseta each, according to whether they come from Europe (other than Spain), from Spain or the West Indies, or from other ports.

Departures are charged per ton: Coal, 0.25 peseta; goods to Europe, 1 peseta; to Spain, etc., 0.50 peseta; to other ports, 2 pesetas; and passengers, 1, 0.50, and 2 pesetas, respectively.

Pilotage is not compulsory on vessels anchoring outside the harbor. Coal consumed in the islands pays a duty of 2 pesetas a ton.

MUNICIPAL TAXATION.

A rate is fixed by law on all consumable goods brought into the towns. On the basis of this rate and the population, the Government declares what amount ought to be returned to the public treasury. To this 50 per cent is added by the municipality, and

* The nominal value of the peseta is 19.3 cents; the market value is about 15 cents.

tenders are invited from those willing to farm the tax. What remains above the Government quota belongs to the town, and the farmer makes what profit he can, often a very large one. Birds entering Santa Cruz, for instance, pay 0.21 peseta each; fish, 0.04 peseta per kilogram; meat, butter, etc., about 0.21 peseta per kilogram; petroleum, 6.25 pesetas per case of 65 pounds. All animals killed inside the town limits must also pay duty.

MILITARY SERVICE.

Able-bodied men are liable to be called out between the ages of 18 and 33, and all are compelled to serve in the ranks for three years, unless they can obtain exemption because of physical inability or because of their being the sole support of a widowed mother, etc.

Able-bodied men who pay $300 to the Government are exempted from three years' active service, but must attend drill on one Sunday in each month.

NUMBER OF TAXPAYERS.

The number of taxpayers fairly well illustrates the occupation and, to a certain degree, the extent of holdings of the people. Territorial taxpayers (including house property) number 64,887; industrial, 2,556; total, 67,443; per thousand, 231.

SOLOMON BERLINER,

TENERIFFE, *March 10, 1900.* *Consul.*

RAILWAY IN THE AZORES.

Since my report* regarding the railroad to be built on this island, the time for reception of bids has expired, no propositions having been received. I learn through private sources that a citizen of this city, who claims to be backed by English capital, has offered to build and maintain a railroad over the proposed route—steam or electric, as his people may choose—without guaranty as to money; the concession to be for ninety-nine years and freedom from all supervision, except as to freight and passenger tariffs, to be accorded. If the municipality should so desire, the road is to be turned over at the end of thirty-five years, in return for a 6 per cent dividend on the cost of equipping and building same for the remainder of the period of the concession. Should his proposition be accepted, he agrees to commence building within sixty days from the date of signing the contract, and to finish within four years.

*ADVANCE SHEETS No. 681 (March 19, 1900); CONSULAR REPORTS No. 236 (May, 1900).

The release from any money guaranty has made the colonial authorities consider this proposition favorably, and the assent of the Imperial Government is now being secured. Some time will elapse before this formality is accomplished, and, should any American company desire to make a proposition, there is yet time to present it. There is to be a formal deposit of 10,000 milreis, which is to be returned when the amount of material on hand is valued at double the deposit. At the present time, an American dollar is worth 1.2 milreis Lisbon money or 1½ milreis island money. This exchange is not stationary, but the introduction of any large amount of foreign capital would no doubt make these figures absolutely safe for an estimate.

I think an electric railroad would be a good investment. The island lacks only hotel facilities to make it a very attractive place for tourists and invalids, in both summer and winter.

GEO. H. PICKERELL,

ST. MICHAEL'S, *May 10, 1900.* *Consul.*

NEW RAILWAY IN WEST POLAND.

The Warsaw-Vienna Railway Company has been authorized to build a line from Warsaw, via Lodz, to Calish and Skalmerjitze, as well as a connecting line between the new one and the Vistula railway lines in Warsaw. The authorized capital is 125,000 shares of $50 and 4 per cent bonds (without guaranty of the Government). The shares mature in 1932 and the bonds in sixty years. The railway is to be constructed within three years and will be about 165 miles long. It will run through the Warsaw, Petrokov, and Calish governments, which contain 4,144 square miles, with a population exceeding 60,000. Joining the Prussian lines near Stchipiorn and crossing densely populated localities (70 to 100 persons to each square kilometer),* the new line will connect the towns of Blone, Sohatchev, Lovitch, Lodz, Lask, and Sieradz, and such prominent manufacturing centers as Zgierz, Pabianitze, Zdunska Vola, Blashki, and Opatovsk. In the Blonsk district, the railway will run near vast and numerous brick works; in the Sohatchev and Lovitch districts, near beet-root-sugar works, distilleries, and chemical works; and it will cross a rich industrial district between the burgh Zgierz, the town Lodz, and the burgh Pabianitze, where great cloth manufactories and weavers' workshops are located, besides numerous distilleries and brick works. The construction of this line will greatly improve the industries in the

*Six-tenths of a mile.

places mentioned. In addition to its local importance, this line will be the shortest route for goods coming from Kovel and Brest to Warsaw and Lodz, as well as to Posen, Hamburg, Breslau, Saxony, and the Silesian mining district.

W. R. HOLLOWAY,
Consul-General.

ST. PETERSBURG, *May 9, 1900.*

PROPOSED BRUSSELS-ANTWERP ELECTRIC RAILWAY.

The Government has provided, in the estimates before the chamber, for the construction of an electric tram service between Brussels and Antwerp. The new line is considered to be the forerunner of others, which will shortly supersede steam locomotion, except for the transport of merchandise. The scheme provides for the construction and operation of an electric railway direct from Brussels to Antwerp, without any intermediary stop, and asks that the duration of the concession may be sixty years.

Several bids have already been submitted to the Government, which, however, reserves the right to select the offer satisfying all the conditions of the bill and presenting the most complete guaranty of good and prompt execution.

The new line must be established in a manner allowing the trains to pass over an uninterrupted line of rails without risk of any possible encounter, either from teams crossing the rails or from trains. In fact, the line must be so constructed as to avoid all obstacles that might involve stopping of the trains. The bill further provides that trains, whether composed of one motor carriage alone or with one or more trailers, must be supplied with powerful brakes. Not having any obstacle to fear, they may acquire a very high rate of speed; that proposed by the bill is 100 kilometers (62.136 miles) per hour, which would permit trains to make the run between Brussels and Antwerp (27 miles) in twenty-five minutes.

It is predicted that very shortly after the completion of the road the traffic will be so heavy as to necessitate running trains every five minutes during the greater part of the day. The carriages will be divided into first and second class sections. The Government reserves the right to fix the tariff, which is expected to be 25 per cent lower than prices now charged by the State railroad between Brussels and Antwerp. Reduction of tariff beyond the limit prescribed and issuing of subscription tickets can not be made unless authorized by the Government. Transportation of all kinds

of merchandise, as well as registered baggage, will be positively excluded.

Although the bill provides for a concession for sixty years, at the expiration of which the railroad and its entire equipment become the gratuitous property of the State, the Government reserves the right to redeem the road after the expiration of the first ten years, or sooner, if considered advantageous. The cost of construction and equipment is estimated at about 40,000,000 francs ($7,720,000).

It is interesting to note that in 1834, Belgium voted the building of the State railroad running from Brussels to Malines; it was rapidly completed, and 1835 saw the inauguration of the first railway on the Continent. In view of the propositions in various countries to establish electric lines between important centers—such as Paris-Havre, Brussels-Paris, Manchester-Birmingham, New York-Philadelphia—the promoters of the line between Brussels and Antwerp are ambitious to have the honor of inaugurating the first important electric line in 1900.

GEO. W. ROOSEVELT,
Consul.

BRUSSELS, *April 24, 1900.*

ELECTRIC STREET CARS IN NEWFOUNDLAND.

Electric cars are now in operation on the principal streets of St. John's, and hundreds of people from the outports have come to enjoy, with the inhabitants of the city, the strange sensation of being whirled along by such peculiar motive power. The street railway is operated by the trolley system and will run twenty cars over 7 miles of track; as the traffic increases the line will be extended to all the suburbs.

The current which provides the power, as well as that for lighting, is generated 9 miles from St. John's. The physical characteristics of the region lend themselves admirably to the success of this enterprise. There is a chain of four connecting lakes, and from the outlet of the last runs a flume, which is built along a steep hillside for 3,300 feet, until it disappears into a tunnel cut 350 feet through a bluff of solid rock. At the end of the tunnel is erected a huge sluice box of timber, to the bottom of which is fixed a steel tube 6 feet in diameter. Through this, the water drops 185 feet on a large water wheel in the power house, which sets the machinery in motion. The largest of the lakes supplying the water has a superficial area of 31,000,000 square feet; the next, 15,000,000; the third, 9,000,000; the fourth, 1,000,000, this being used as a regulating

pond. The capacity of the plant is 1,600 horsepower, but the flume is of sufficient capacity to drive another plant of like size.

The electricity is concentrated at the power house and transmitted to the substation in St. John's at a voltage of 15,000. To-day, every portion of the apparatus was in circuit and every wire charged, the whole running as smoothly as if it had been going for years. The water wheel and other machinery was built by the Stillwell, Bearce, and Smith-Vail Company, of Dayton, Ohio, and the electric plant by the Westinghouse Company, of Pittsburg, Pa.

The street railway is a subsidiary enterprise associated with the railway contract between the government of Newfoundland and Robert G. Reid, of Montreal, in 1898, an account of which was published in CONSULAR REPORTS No. 213 (June, 1898), page 201.*

MARTIN J. CARTER,

ST. JOHN'S, *May 1, 1900.* *Consul.*

PULP MILLS IN ONTARIO.

The government of the Province of Ontario has recently granted to the Spanish River Pulp and Paper Company the right to select as a reserve 50 square miles of spruce and other woods suitable for pulp, with the further privilege of cutting pulp wood on territory 5 miles on either side of the Spanish River and tributaries. It is said that this practically gives the company control of over 2,500 square miles of territory.

In consideration of the grant, the company agrees to erect, within three years, pulp and paper mills costing $500,000. The grant is for twenty-one years, and the mills are to be located on the Canadian Pacific Railway, about 100 miles east of this city.

Another grant for 40 square miles was given to the Blanch River Pulp and Paper Company, and an additional right to cut pulp wood on the Blanch River and tributaries. The company agrees to erect within three years mills costing $250,000. These will be located on the Canadian Pacific Railway, about 314 miles west of Montreal.

A grant was also given to the Nipigon Pulp, Paper, and Manufacturing Company, on the Nipigon River, near the north shore of Lake Superior.

All the above companies will use water power from the falls on the rivers on which they are located.

Citizens of the United States, together with Canadians, are interested in each of the companies.

GEO. W. SHOTTS,

SAULT STE. MARIE, *May 10, 1900.* *Commercial Agent.*

* Also in ADVANCE SHEETS No. 98 (April 27, 1898).

DAIRY INTERESTS IN NEW BRUNSWICK.

The dairy interests in the Province of New Brunswick have rapidly increased during the past few years, there being at present fifty-six agricultural societies, to which about $10,000 were granted by the provincial government. A cash subsidy is considered the best way of encouraging the industries. In addition to the above, there are twenty-nine local dairymen's associations, with grants amounting to some $1,200. From these, reports are made to the minister of agriculture of improvements in live stock, experiments with new varieties of seeds, and distribution of the same. A good deal of attention is being paid to the raising of wheat, and the reports are very gratifying. Several roller flour mills have been built, which are subsidized by the government.

The manufacture of butter and cheese has improved very much in a comparatively short time, possibly because of the establishment of a practical government school in which the most approved methods are taught. Cheese, particularly, from this Province ranks high in the markets; and certainly the quality is exceptionally fine and also, what is rare, very even.

Nearly 9,000 tons of milk were used in 1899 in making 329 tons of cheese, and 3,418 tons of milk were used at creameries in making 151 tons of butter. The past year was considered a more than usually prosperous one for the dairy interests.

FRANK C. DENISON,

WOODSTOCK, *March 17, 1900.* *Consul.*

WINTER ROUTE TO DAWSON.

Bennett, British Columbia, the starting place for the winter route to Dawson, is a small town of some 500 inhabitants and is the present southern terminal of the White Pass and Yukon Railroad. By next August, the railroad will be completed to White Horse, 70 miles nearer Dawson. In the winter season, one has to spend a couple days here in getting luggage through the custom-house and in arranging for conveyance.

Prices at the best hotels are $3.50 to $4 per day, according to whether you occupy an "upper or lower bunk." At Bennett, most travelers purchase horses, sleds, and harness; horse sleds being much more comfortable than the small basket sleds hauled by dog teams. The price of horse, sled, and harness averages $150. They can be sold at Dawson early in the season at a profit. Some 600 horses

came over the trail this winter, freighting and carrying passengers. One has to take along enough horse feed to last him on the trip, which can be made easily in ten to twelve days. I, with four others, elected to go with the Canadian Development Company, which carries the mail and express matter and also carries passengers to and from Dawson at $250 each. Travelers board themselves. They are carried by horses half the way, and go by dog sleds the other half.

We started out on March 24, about midday. On account of the very warm weather during the early part of March, the snow on Lake Bennett got very soft, and the trail was made worse by the freighter sleds, to which is attached a trailer sled, loaded heavily. These trailers cut up the regular road badly and one gets spilled out occasionally by the sled upsetting. We only went as far as Cariboo Crossing that day—28 miles from Bennett. Cariboo Crossing is the commencement of the Yukon Territory. On arriving at Cariboo we put up for the night at the hotel, or road house. We were asked if we had our own bedding. Some of us had blankets; others, fur robes. Each was allotted a bunk in a room where the bunks were in tiers three high and consisted of canvas nailed on boards. Two to three dozen are put in a room about 6 by 12 feet, without ventilation. Those not getting in early generally lie on the floor and tables. Prices for such accommodations are $6 per day. On the trail, one sees all manner and styles of conveyances—the freighter with his heavy sled teams, taking merchandise to Dawson; ox sleds, dog sleds, bicycles, and sleds hauled by the owner. Some travelers have their belongings strapped on their backs. Those who haul their own sleds, when going over the lakes, rig up a sail so that the wind may help them.

From Cariboo the trail leads over a cut-off, shortening the distance some 50 miles. The road from Cariboo to White Horse, 45 miles, is covered in one day. White Horse is to be the terminal of the railroad next August. The road will be finished then, and in summer steamers will leave there for Dawson, the run being made in a couple of days.

White Horse will in time be the center of a great copper-mining district. Companies are organized to put up smelting works, and the Canadian Bank of Commerce has established a branch there. From White Horse, the road passes over Lake La Barge, the trail being good to Lower La Barge, and from there is another overland cut-off to Cormacks, shortening the distance to Dawson some 75 miles more. From Cormacks to the next post, some 25 miles, the trail is over hills, and at this late season the snow has disappeared from most of the way, and one is obliged to walk. I have seen six horses hitched to an ordinary one-horse load. At Mackays we are

supplied with dogs, and from there to Dawson—some 250 miles more—one is tucked into a basket sled hauled by five or six dogs, and can keep on day and night, as relays are to be had at every post. There are English-speaking dog drivers as far as Selwyn; from there on they are French Canadians. These drivers have remarkable endurance; they run steadily along, holding on to the handles of the sled in rough places to keep it from upsetting, for 40 to 50 miles at a 5-mile-an-hour gait, and have no chance to rest on the end of the sled for half an hour altogether during the whole run. On the last day, we made 48 miles in a blinding snow storm, the trail being entirely obliterated. We made it in thirteen hours, including a one-hour stop for dinner. The trip should not be undertaken at this season; from the 1st to the 10th of March is as late as one should come in over the ice. In the months of December, January, and February the trail is always in good condition, and fast time can be made.

Dawson is beginning to present a more substantial appearance. Claims are now being prepared for sluicing; that is, for washing the gold from the large dumps of earth taken out of the claims during the winter months.

Residents are very much gratified at the excellent mail service, the mail coming and going regularly every week all through the winter; letters only, however, from the United States. Mails were brought in this winter from Bennett in seven days; next season it will take five days from Skagway.

Provisions are a little cheaper in some lines this spring. There is, however, no change in cost of living—$100 per month for board in a fairly good hotel and $100 per month for a bedroom. Eggs (frozen) cost $2.50 to $3 per dozen wholesale. Oranges cost $80 per case of 110 and retail at $1 each, and apples (not very good) cost 50 cents each.

The license on saloons has been reduced from $2,500 per annum to $1,500. Two dollars a gallon duty is assessed on wines, liquors, and beer brought into the Yukon Territory.

All kinds of boats are being fitted up to convey people to Cape Nome, but as many people came into Dawson this winter as went out. There are reliable reports as to the richness of the Koyukuk section. Several parties have left here in the past ten days for the Koyukuk, going over the ice to below Fort Yukon, then overland some 175 miles.

J. C. McCOOK,

DAWSON CITY, *April 18, 1900.* *Consul.*

MUZZLING OF DOGS IN GERMANY AND GREAT BRITAIN.

At the instance of the Commissioners of the District of Columbia* a Department instruction was sent to certain consular officers in Europe, asking whether dogs are required to be muzzled in foreign cities and if the results have proved satisfactory. In reply, Consul-General Mason writes from Berlin:

In Berlin, Frankfort, and, so far as I know or can ascertain, in all cities and large towns of Germany, dogs are required to be muzzled whenever they are on the street or public place, and this regulation is enforced in cities even when the dog is led or held in leash by the owner, or is harnessed for working purposes to a cart or other vehicle.

In Berlin, every dog is subject to a tax of 20 marks ($4.76) per annum. When this tax is paid, the dog is registered and the owner receives a small brass disk bearing the registered number of the animal, which must thenceforth be worn on its collar. The absence of either number or muzzle subjects the dog, when outside the inclosed premises of its owner, to immediate seizure by the dog police, who are a special branch of the municipal police appointed and qualified for that purpose.

The Berlin ordinance covering this subject was enacted many years ago, but was amended to its present form on March 5, 1899. The following is a translation of Section VII, which relates to the penalties that apply to dogs found in the streets or public places without muzzles, the fine for each offense which does not involve willful intent or neglect on part of the owner being 3 marks (75 cents):

Dogs not wearing muzzles and valid tax certificates found in public places are to be seized, in so far as the exceptional conditions named hereinafter do not exist.

The muzzle must be fastened around the head according to prescribed rule. If the muzzle hangs down from the neck, it is to be considered as if it did not exist.

The capture of dogs with defective muzzles is permitted only when the defect or injury to the muzzle leaves it possible for the dog to bite.

Disputes and differences of opinion between the dog-catching official and the leader of the dog are decided upon demand at the nearest police station.

Dogs which are not three months old are not to be seized.

As in many instances it is impossible to ascertain the exact age of such a dog, the animal is to be seized only when there can be no doubt as to the age of the dog.

The effect of these regulations has been to practically exterminate stray and useless dogs, to restrict the dogs actually kept (1) to those of fine race owned by people in easy circumstances, (2) to those kept

* To whom copies of the reports have been transmitted.

for hunting, and (3) to those used as working animals by milkmen, market men, butchers, peddlers, etc., in or near towns and cities.

The ordinance is enforced with unswerving rigor and impartiality, and as a consequence hydrophobia is practically unknown in Germany.

Consul-General Osborne responds from London that he submitted the questions of the Department to the board of agriculture, and they sent him copy of the rabies acts and a tabular statement of the number of cases in London during 1897, 1898, and 1899,* showing that the operations of the board, following upon the steps which had been taken by the local authorities of London to eradicate the disease, were attended with such success that no case of rabies has occurred within that area during the past year. The regulations governing the muzzling of dogs are summarized as follows:

Any unmuzzled dog found by the police in a public place, not under the control of any person and not wearing a collar with the name and address of the owner, will be seized by the police, and the owner will be liable to a penalty not exceeding £20 ($97).

No dog shall be allowed to be in or on any public place unless such dog is muzzled with a strong cage muzzle, so constructed as to render it impossible for the dog to bite, but so as not to prevent it breathing freely or lapping water.

Any dog not muzzled may be seized, and if diseased it shall be slaughtered; if suspected, it shall be detained or dealt with as the council thinks expedient; if it is not diseased or suspected, it shall be detained for three days, and, if not then claimed by the owner, shall be slaughtered or disposed of as the council deems expedient. In addition to any penalty the owner may be liable to for a breach of these regulations, all expenses connected with such detention may be recovered from the owner.

The foregoing regulations shall not apply—

(*a*) To any dog under the control of any person and wearing a collar upon which the name and address of the owner are legibly inscribed.

(*b*) To sheep dogs with a shepherd and in charge of sheep.

(*c*) To dogs being taken to or from exhibitions, shows, or other places, if confined in boxes, cages, or hampers so constructed as to render it impossible for them to bite.

(*d*) To packs of hounds while being used for sporting purposes or while being exercised under the control of servants of the hunt.

The expression "public place" in these regulations includes any street, thoroughfare, public bridge, park, garden, or pleasure ground, uninclosed land, or other place to which the public for the time being has access.

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*Transmitted to the District Commissioners.

NOTES.

Petroleum Industry in Japan.—Vice-Consul-General McLean transmits from Yokohama, April 27, 1900, a clipping from the Japan Times, of even date, giving information concerning the rapidly developing petroleum industry in the district of Echigo, Japan, as follows:

ECHIGO PETROLEUM NOTES.

There are at present over thirty petroleum companies in the oil district in Echigo. Some of these possess a capital of over 1,000,000 yen ($498,000), the aggregate capital amounting to 12,000,000 yen ($5,976,000).

In consequence of the increasing activity of the industry, the inadequacy of banking facilities is now being felt by the merchants in the locality and by those having business connections with the place. With the object of affording better facilities in this direction, the First and Yasuda banks, in Tokyo, and the Sumitomo Bank, in Osaka, have under consideration the establishment of branches either in Nagaoka or Kashiwazaki.

The proposed scheme to construct a pipe line from the seat of the petroleum wells in Echigo to Tokyo, for the rapid and convenient transportation of kerosene, is now assuming a practical shape. The promoters of the enterprise have decided to intrust the Nakai engineering office with the business of making a preliminary survey for the projected work. Mr. Miyagi, graduate of the engineering college of the Tokyo Imperial University, will act as advisory engineer in the survey, which is to be begun at no distant date.

Weights and Measures in Sierra Leone.—Consul Williams transmits from Sierra Leone, April 13, 1900, copy of an ordinance to regulate weights and measures in that colony (taking effect March 22, 1900), which has been summarized as follows:

A pound avoirdupois shall be the primary weight; the multiples of the pound avoirdupois—grain, pennyweight, ounce, pound—are troy weights. The primary measure of capacity shall be the gallon; of length, the yard. The weights specified as avoirdupois shall be used in computing the weight of any article, provided that gold and silver and all articles made thereof—also platinum, diamonds, and other precious metals and stones—shall be sold by the weights designated as troy. The colonial standards of weight, capacity, and length must be verified at the standards department of the Board of Trade in England. They must be kept in the treasury. The superintendent of the Sierra Leone police force ex officio shall be inspector of weights and measures. He may at any time examine them, and is empowered to give certificates of justness. No weight or measure shall be used unless it be stamped or marked by the inspector. Unjust weights or fraud in use of weights shall be punished by a penalty not exceeding £5 ($24.32), £10 ($48.65) for subsequent offense; in default of payment of penalty, imprisonment from two to six months, with or without hard labor.

Mining and Smelting Industries of Spain.—Consular Agent Harris sends from Eibenstock, May 1, 1900, the following clipping from the Allgemeine Zeitung, of Munich, in regard to the mining and smelting industries of Spain:

It has been known for a long time that Spain is rich in mineral ore. Want of enterprise and capital have hindered the development of these hidden treasures; but there are signs which indicate that this stagnation will be thrown off. Spain exports each year a great deal of iron ore. In 1876, the Kingdom exported 359 tons of copper; in 1890, it had increased to 46,000 tons; and in 1899, to 1,000,000 tons. From 1890 to 1899, Spain's exports of lead increased from 140,000 tons to 172,113 tons. During this time, the exports of ores of every description increased tenfold. Bilbao is the seat of the Spanish iron and smelting works.

Ores are also found in Seville, Cordoba, Almeria, Murcia, and throughout the Pyrenees. Vast fields of coal, together with unused water power, abound in Asturia, North Castile, and Andalusia. In 1899, Spain exported 8,073 tons of coal.

The total value of the products of the Spanish iron and smelting works for 1898 amounted to $61,567,000, an increase of $10,036,000 over 1897.

Egg Exports from Madeira.—The following has been received from Consul Jones, of Funchal, dated May 5, 1900:

The export of eggs from Madeira to South Africa since 1897 has been:

1897	2,122,286
1898	4,054,826
1899	5,298,820
1900 (from January 1 to April 1)	2,067,000

The United States should command this trade. Madeira is fourteen days from Cape Town. Eggs are put up and shipped from here in most primitive manner. With our advanced means of preserving and methods of carrying, our eggs should command a better price, and the market is without limit. Eggs could be shipped from America via Southampton to catch the fast-mail steamers, and would be only a week older than Madeira eggs when they arrive at destination. Eggs are taken from central Russia to South Africa, arriving there in good condition. Eggs sell in the market here at $3 per hundred.

Electric Power Wanted in Greece.—Consul McGinley writes from Athens, May 14, 1900:

From reliable sources, I have learned that the Athens and Piræus Railway Company must, according to conditions in its franchise, adopt electricity as the motive power for its trains within the next three years. This road extends from the quay in Piræus to the business center of Athens, some 5 miles, three-fourths of a mile of the

distance being through a tunnel under a portion of the city. A Belgian company which owns and operates a steam tramway between Athens and Piræus, via Phaleron, also wishes to adopt electric power for its trains; but how soon it desires to make the change has not been learned. Each road has a very large passenger traffic, especially in the summer. A company of Athens has been trying to secure the contracts for fitting these roads with electric power. I have been informed that the president of the first-named company has gone to the exposition at Paris to examine the electric contrivances on exhibition there and to endeavor to secure the best possible power for his road.

German Tradesmen at the Paris Exposition.—Consul Monaghan, of Chemnitz, May 4, 1900, writes:

A motion has been brought before the Reichstag to select men from different trades and send them to the Paris exposition, in order that they may make a thorough study of the branches which they represent. It is proposed to appropriate at least $75 for each one. A great many cities and districts in Germany have arranged to send such men to Paris. Some will pay particular attention to hygiene, illuminating appliances of all kinds, methods of transportation, and canalization. The Chemnitz representatives are to study the methods in vogue in London for conserving and utilizing the smoke given off from large factories. A great quantity of the coal consumed in this city is of the so-called soft variety, and gives off a soot that is very destructive to the external appearance of houses. The German experts will also converse with the representatives of the exhibiting nations, and find out what their countries are most in need of. The knowledge acquired by these men will be of unquestionable value in the development of German industrial life.

Profits of German Farms.—Consul-General Guenther writes from Frankfort, April 23, 1900:

For the purpose of furnishing information with reference to new commercial treaties, investigations concerning the profitableness of a large number of farms have been made by the authorities in the Kingdom of Wurttemberg. Ninety-four were selected, including the smallest and those of several hundred acres. The appraised value amounted to $2,970,000; the average value per acre, to $225, varying from $75 to $850. The average profit per acre was $1, or 1.72 per cent of the total appraised value. The several establishments, however, showed very different results. Of the ninety-four farms, nine worked with a loss. Of the remainder, only sixteen returned interest

on the working capital; nineteen yielded 5 per cent on the working capital and 3 per cent on the investment for buildings; fifty yielded 5 per cent on the working capital and 3 per cent on the capital invested in buildings, and in addition an income on the lands ("Grundrente"), which latter in two instances amounted to 5.17 per cent.

Proposed Increase of Glove Prices in Germany.—Consul Hughes writes from Coburg, May 2, 1900:

At a recent meeting of the Association of German Leather Glove Makers in Leipzig the question of increasing prices of leather gloves was discussed. Stress was laid on the fact that the manufacture of leather gloves was one of the few industries which had not, up to the present, participated in the extraordinary general advance of German commerce. In view of the rise in wages and the high prices of raw materials, this branch of industry makes a very trifling profit. Factories are overwhelmed with orders, so that at present they are in a position to dictate prices to the purchasers. It was decided to send circulars to all members of the society, as well as to outside makers, urging them to increase their prices, without, however, binding themselves to any fixed percentage of advance.

Coal Strike and Ceramic Industries in Europe.—Consul Hughes, of Coburg, under date of April 27, 1900, writes:

The great Austrian coal strike has come to an end; but its unfavorable consequences will be severely felt in ceramic industries for a considerable time, the price of coal continuing from 30 to 50 per cent higher than it was before the strike. The contracts which large concerns had made are of no use to them now, as they contained, almost without exception, a clause according to which they became null and void on the outbreak of a strike. There is hardly any chance of manufacturers recovering this loss by obtaining other materials at cheaper prices, as everything used in these industries has gone up. There is every probability that the prices of ceramic products will be raised in the near future. China doll heads are already sold at 10 per cent higher prices than formerly, and molded china goods have advanced 20 per cent.

Belgian Demand for Coal.—Consular Agent Dodt writes from Verviers, May 14, 1900:

There is inquiry for bituminous coal for boiler furnaces, and the present emergency offers a good opportunity to introduce American

coals into Belgium. Since December, 1898, I have been writing to coal concerns in the United States, but without result. People here are anxious to import large quantities, and I would like to know prices of bituminous coal delivered in Antwerp.

Railway Station at Nottingham.—Consul McFarland writes from Nottingham, May 25, 1900:

A new railway station, one of the largest and finest in England, was opened for traffic in this city yesterday. It was built by two roads—the new Great Central and the Great Northern—and is in the heart of the city, being entered from each direction by tunnels. It covers 12 acres and cost slightly in excess of £1,000,000 ($4,866,500). Five hundred and eighty thousand cubic yards of material were removed from the site, and the platform frontage, of solid masonry built to car-floor height, aggregates 2 miles. The largest station in Britain is the Waverly, at Edinburgh, covering 23 acres. Liverpool street station, London, covers 22½ acres. Next to the new Nottingham Central, now the largest in the provinces, comes New street, Birmingham, covering 10¾ acres. All of these stations are of the most substantial pattern, being constructed entirely of stone, brick, and iron.

A New Textile Plant.—Consul Atwell, of Roubaix, under date of May 11, 1900, writes:

On July 18, 1899, I made a report on the *Apocynecis* or *Apocynum venetum*,* a textile plant growing wild in Asia Minor, Indo China, and Japan. Since that time samples of this plant have been received in Lille, Rouen, and the Vosges, where tests have been made, both in the dry state and after three months' submersion in water, to establish the power of resistance of the *Apocynecis* compared with that of flax. It is said that the strength of the *Apocynecis* is 50 per cent greater than that of flax. These tests have been carried on with great secrecy, and I have not been able to get more information than that herein given. I inclose a small sample of the plant.† It is sold in Cambodia for 7 francs per 100 kilograms ($1.35 per 220.46 pounds).

Italian Demand for Locomotives and Cars.—Acting Consul Monaghan writes from Chemnitz, May 18, 1900:

According to several newspapers of Milan, the Italian Minister of Railroads has empowered the Italian Meridional, Mediterranean,

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*See CONSULAR REPORTS No. 229 (October, 1899); ADVANCE SHEETS No. 513 (August 26, 1899).
†Sent to Department of Agriculture with copy of the above report.

and Sicilian railroads to call for bids for 123 locomotives, 460 baggage cars, and 2,673 freight cars, valued at $8,878,000. For the construction of these, competition is open to the world. It seems to me that some of our large builders of locomotives should stand a fair chance of getting part of these orders. I am unable to give the time limit of bids.

French Demand for Lead and Zinc.—Consul Brittain, of Nantes, under date of May 17, 1900, says:

Inquiry has just been made at this consulate for prices (by the ton) of lead and zinc of all descriptions. American manufacturers of these metals are requested to correspond with M. Albert Brosseau, of No. 4 rue Cambronne, Nantes, France, and submit prices. Samples of sheet zinc and small blocks of lead may be sent through the mails. Prices should be stated in francs and centimes, and the metric system used in giving weights and measures.

Machinery and Tools in the Caucasus.—Consul Schumann sends the following from Mainz, May 16, 1900:

French and Belgian capital is largely interested in industrial undertakings in the Caucasus. In 1898, the export of manganese iron ore from the Caucasus amounted to 20,000,000 poods (361,120 tons), and recently a number of new mining concessions have been granted.

The most important of the new French companies whose chief industry is the mining of manganese and copper ore is the "Société Industrielle du Caucase," whose main offices are at Tiflis. The demand for mining machinery, tools, and instruments of all kinds is very great.

Telephone Improvements in Germany.—Under date of May 5, Consul Worman, of Munich, reports:

A syndicate has just been formed, under the auspices of the Bank of Darmstadt, to bring into practical use certain telephone improvements that have been tested in Government offices. These inventions are to make it possible to retain the spoken word and to repeat it as freely as desired; to use the same wire for simultaneous conversation by different parties; to repeat the same conversation at various points; and to strengthen the sounds so as to make the long-distance telephone operate with better results.

German Cement and Cracker Trusts.—Consul Worman, of Munich, under date of May 1, 1900, reports that the biscuit and cake manufacturers of Germany have formed a trust and fixed minimum prices for unpacked goods ("Nakte Waare"), common biscuits ("Volksbisquits"), and Albert cakes, to rule the whole industry in Germany.

On May 5, Mr. Worman notes that the various German manufacturers of cement are to hold a meeting for the formation of a syndicate, which will open a central bureau for the sale of all the cement output of German factories.

Canned-Meat Imports into Germany.—Consul Worman, of Munich, under date of May 10, 1900, writes:

The German agrarians who have labored to bring about by legislation the exclusion of prepared meats are confronted with the problem of how to keep canned meats out of the country, when there is a commercial treaty with Italy permitting the entry of such goods. This can not be abrogated until the end of 1903, when the trade compacts with Austria-Hungary, Belgium, Switzerland, Russia, Roumania, Servia, and Italy will terminate. The treaties with Japan and Turkey will not terminate for some time after 1903.

Motor Vehicles in Munich.—Consul Worman writes from Munich, May 1, 1900:

The Bavarian Government has just set aside the city ordinance preventing the use of automobiles on the streets of Munich. This opens up one of the best German cities for American manufacturers of horseless vehicles of every sort, and wide-awake agents should be promptly sent to this field, so promising because of the large class of wealthy residents. Munich is the third largest city in the German Empire. The streets are well paved, bicycles are popular and horses dear. This opening should not long be neglected by American enterprise.

Austrian Demand for Flaxseed.—Consul Listoe writes from Rotterdam, May 25, 1900:

I have to-day received a letter from the firm of Pototschnig & Frankel, in Trieste, Austria, in which inquiry is made for "some A No. 1 exporter of flaxseed in the United States." The letter further states: "Owing to the great scarcity of linseed in India and Russia, and consequent enhanced prices, America can now compete favorably, and we hear of several sales from the United States." This information may be of interest to American exporters of flaxseed.

India's Cotton Crop.—Consul-General Patterson, of Calcutta, under date of May 23, 1900, writes in regard to the figures in his report printed in ADVANCE SHEETS No. 663, February 26, 1900 (CONSULAR REPORTS No. 236, May, 1900), as follows:

The director-general of statistics to the government of India reported the crop of 1898–99 to be 2,416,503 bales of 400 pounds each, not 1,365,864 bales, as copied by mistake in my report. He also estimated, in his third memorandum on the cotton crop dated December 30, 1899, that the crop of 1899–1900 would be 641,327 bales, as stated in my report, a little more than one-fourth of the crop of 1898–99 and of the average for the past five years, which was 2,308,424 bales.

A New Substitute for Caoutchouc.—Vice-Consul Murphy sends from Magdeburg, May 3, 1900, translation from Deutsches Handels Museum, as follows:

The chemist W. F. Reidl has recently exhibited to the London Society for Chemical Industry a substitute for caoutchouc and gutta-percha called "vevril." Vevril is said to be composed of nitrocellulose mixed with linseed oil or castor oil. This mass, which is said to resemble the grade of caoutchouc known as "Para," is obtained by mixing 1 liter of nitrocellulose with 2 liters of oil. Castor oil yields a better product than linseed oil. The utilization of the material is effected by pressure or the influence of heat. An easy way to use vevril is to soften it with a solvent and then cause the solvent to evaporate. Vevril is said to be preferable to American caoutchouc, in that it does not injure copper.

Restricted Production of Woolen Goods in Europe.—Consul Worman writes from Munich, May 1, 1900:

At a recent meeting of the United German Manufacturers of Worsted Goods in Leipzig (at which 1,400,000 spindles were represented), it was resolved to reduce production from June 1 to December 31, 1900, by 20 per cent. It is understood that the manufacturers of Switzerland, Austria, and Russia have agreed to adopt the same course, in order to put a stop to further decline in prices.

Advance in Wages at Nottingham.—Consul McFarland, of Nottingham, May 7, 1900, reports that an 8 per cent advance in wages has been made for hand frame knitters. These still do considerable work at their own homes, notwithstanding modern improvments in machinery. A first-class framework knitter, working full time, earns about 30s. ($7.29) per week, and this advance will give him 30d. (60 cents) additional.

Greek Currant Crop.—Consul Darte, of Patras, under date of May 31, 1899, reports:

Greece has seen this year the worst weather, it is stated, that has been experienced for the last forty years, with changeable temperatures and heavy rains. This has greatly affected the currant vines, and the disease known as peronosporos has shown itself to a considerable degree. In some sections, the decrease in the crop is estimated at 40 per cent; in others, at only 15 per cent. Currant raisers and merchants are greatly exercised over the prospective decrease.

Canadian Horses for Africa.—Commercial Agent Johnson, of Stanbridge, under date of June 1, 1900, reports that the South African war has opened up a new market for Canadian horses, and prices have almost doubled. One cargo of 713 was to leave Montreal on the 29th of May on the steamship *Lugano* and another on June 6 on the *Devona*. This vessel's capacity is 875 head, and it will take forty cattlemen to care for the animals. Owing to her coal capacity, the *Devona* will not be compelled to touch at any port on the long voyage. Mr. Johnson adds that these two shipments will almost drain the section of good horses.

Geese Eating Gold.—Consul Smithers writes from Chungking that there seems to be a misunderstanding in regard to his report printed in CONSULAR REPORTS No. 232 (January, 1900),* in which he was supposed to have made the statement that geese ate gold. Mr. Smithers calls attention to the fact that he is not responsible for this story, which appeared in a quotation from a publication giving information in regard to the mineral wealth of Yunnan. The statement quoted does not say that the geese eat gold, but seems to indicate that they collect it in feeding.

Admission of Goods into China for Exhibition.—Minister Conger wrote from Pekin, April 16, 1900, that he had succeeded in obtaining permission from the Tsungli Yamên to admit, free of duty, the goods to be placed on exhibition in the American warehouse in Shanghai to be established by the National Association of Manufacturers. Bond was to be given that none of the goods would be sold.

*Also in ADVANCE SHEETS No. 578 (November 13, 1899).

Tariff Concessions in Guatemala.—Consul-General McNally transmits from Guatemala, May 19, 1900, copy of a decree of May 15, which reads as follows:

In the custom-houses and frontier stations, only 70 per cent of the total import duties and extras will be charged on merchandise imported into the Republic from the 1st of July until the 31st of December of this year, the 30 per cent reduction being for the benefit of the importer.

Plans for Montevideo Port Works.—The Department has received from the legation of Uruguay, under date of June 15, 1900, copies of the final specifications, with terms and conditions, of the plan for the improvement of Montevideo Harbor. The legation desires the names of intending bidders. Copies of the plans will be sent by the Bureau of Foreign Commerce to interested parties until the supply is exhausted.

Cart Road to Guatemala City.—Consul-General McNally, of Guatemala, May 11, 1900, reports that the Government of Guatemala has determined to make a cart road from El Rancho, the terminus of the Northern Railroad, to the city of Guatemala, thereby obviating the necessity of mule traffic, and insuring safe transportation. It is thought that the road will be finished within six months.

Port of Cucuta Closed.—Consul Shaw sends from Barranquilla, May 12, 1900, copy of a dispatch from the civil and military chief of the province to the effect that the Government of Colombia has declared the port of Cucuta closed.

Consular Reports Transmitted to Other Departments.—The following reports from consular officers (originals or copies) have been transmitted since the date of the last report to other Departments for publication or for other action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
L. L. Stang, Saigon	Apr. 12, 1900	Rice market	Department of Agriculture.
Do	May 10, 1900	....do	Do.
M. H. Twitchell, Kingston	May 31, 1900	Agricultural conditions	Do.
R. Guenther, Frankfort	May 26, 1900	Death rate of European cities.	Marine Hospital.

FOREIGN REPORTS AND PUBLICATIONS.

British Commercial Agents.—The London Times, in its issue of May 29, 1900, says that the British Secretary of State for Foreign Affairs has appointed Mr. Henry Arthur Cooke, Mr. John C. Milligan, Mr. E. Seymour Bell, and Mr. E. H. Melville to be British commercial agents in Russia, Switzerland, the United States, and Central America, respectively, for an experimental period of two years. Mr. Cooke is to be stationed at Moscow. The headquarters of the other commercial agents have been fixed at Zurich, Chicago, and Guatemala.

In its edition of May 30, the Times quotes the following additional details (received from the Foreign Office):

The business of the agents will consist in watching and reporting on the commerce, industries, and products of special districts and in answering inquiries on commercial subjects. Individual firms applying for information will have to pay the prescribed fees, as hereafter stated. Communications intended for the commercial agents may be addressed to Her Majesty's ambassador at St. Petersburg or Washington or Her Majesty's minister at Berne or Guatemala, as the case may require, in order that the proper fee may be assessed and levied before the desired inquiry is proceeded with. Simple inquiries can be addressed direct to the commercial agent, accompanied by the fee of 5s. ($1.21).

The following is the scale of fees to be charged by Her Majesty's diplomatic missions in consideration of services rendered by commercial agents in making inquiries for private firms:

	£	s.	d.
For ordinary inquiries	0	5	0=$1. 21
For inquiries involving reports as to trades or individuals	1	1	0= 5. 10
For extended inquiries at the discretion of the ambassador or minister, not in any case to exceed three months	2	2	0=10. 20 to
	5	5	0=24. 55

If journeys are undertaken the fees will be—

	£	s.	d.
(1) For agent's services per day	1	1	0=$5. 10
(2) For agent's services for every broken day	0	10	6= 2. 55
(3) Subsistence per night	1	1	0= 5. 10

together with actual expenses of locomotion.

All fees above 5s. are to be prepaid. The method employed for levying the fees will be as follows:

In case of an inquiry addressed to the agent which can be answered forthwith, and for which the lowest fee would be charged, he can reply at once, requesting that the sum of 5s. may be sent to the embassy or legation. He will transmit to the mission lists of inquiries so answered, in order that the payments may be checked

and demanded if not already made. If the fee has been sent with the inquiry, he will remit it to the embassy or mission. In cases of inquiries for which fees of £1 1s. ($5.10) and upwards are to be charged, the agent will forward the information to the mission for transmission thence in exchange for the fees, which may, according to circumstances, be required before the answer is given. In cases requiring research or a journey, the agent will report to the ambassador or minister, who will decide whether an offer should be made to procure the information, and, if so, on what terms, or whether it should be stated that the information can not be procured.

The German Meat-Inspection Bill.—The Board of Trade Journal, London, June 7, 1900, says:

The Board of Trade have received, through the Foreign Office, copy of a memorandum by the commercial attaché to Her Majesty's embassy in Berlin on the "inspection of meat" bill, which passed the German Reichstag on the 22d ultimo with but slight alterations from the form emanating from the second reading and embodies the compromise arrived at with the German Government, for section 14, a translation of which is given below. It will be seen that this paragraph now distinctly excludes all "tinned meats" from Germany, as well as sausages and other mixtures of chopped meats. The canned-meat imports from Queensland and from any other British colonies are thus shut out from the German market. As regards other importations of meat, certain regulations are, in the second part of section 14, laid down, which remain in force up to the 31st of December, 1903, after which date the regulations affecting this remaining part of the meat imports are to be revised. The following is a translation of the text of section 14 of "inspection of meat" bill under the compromise:

"The importation of meat in air-tight closed boxes or in similar casings, as also of sausages and other mixtures of chopped meat, is forbidden within the German customs limits.

"In other respects, the importation of meat into the German Zollverein will be regulated by the following provisions up to the 31st December, 1803:

"(1) Fresh meat can only be imported in whole carcasses, which, however, in the case of cattle (with the exception of calves) and of pigs, can be in complete halves.

"To the carcasses there must be attached the pleura peritoneum ('Brust und Bauchfell'), the lungs, the heart, and the kidneys. The Bundesrath is empowered to extend this regulation to other organs.

"(2) Prepared meat can only be imported when experience has shown that all possibility of injury to health is excluded, or when, on importation, the absolute freedom from injurious properties can be ascertained with certainty. This regulation, now laid down, is considered to be impossible to carry out in consignments of salted meats ('Pökelfleish') when the weight of single pieces is less than 4 kilograms (8.8 pounds); this rule does not apply to ham, bacon, and intestines ('Därme').

"Meat which has gone through a process for the purposes of preservation, but which has, in its chief features, still retained the properties of fresh meat, is not to be considered as prepared meat; such meat is subject to the provisions of section 1.

"For the period after December 31, 1903, the regulations dealing with the importation of meat are to be revised by law. Should such new regulations not have been completed by that date, then the regulations of section 2 as to importation will remain in force until further notice."

Economic Situation of Dutch Guiana.—The following is summarized from the Recueil Consulaire, Brussels, vol. 104, 1899:

Surinam, with its majestic rivers and its fertile soil, is one of the richest of Dutch possessions. The chief productions are sugar, cacao, coffee, balata gum, and rice, the latter cultivated in the lower coast regions. Although Surinam has many different kinds of timber and hard woods suitable for cabinetwork, the cedar and bulley tree are the only kinds of importance for exportation, the lack of means of communication being partly responsible for this, as well as the inveterate habit of the natives of working only when they please or when forced by necessity. The most important question since the abolition of slavery in 1863 is that of manual labor. Coolies from the British Indies are the principal immigrants. They become easily acclimated, and are vigorous and industrious. A planter can ask for as many coolies as he desires, paying $63 per head, besides a tax of $2 for every adult man and 50 cents for a woman over 15 years of age. The Government claims for medical attention $3.25 for each adult and $1.60 for a child under 15. Most of the Chinese who remain in Surinam at the expiration of their contract go into the towns or install themselves as merchants on the plantations. Opinions are divided upon the subject of European colonists. An attempt was made in 1845 by forty planters which failed for lack of resources, only a few succeeding. In general, it may be stated that a limited number only of young and vigorous peasants should be sent at a time, and at the charge of the State, instead of a company. In 1897, a society was founded in Holland to investigate the mineral and geological resources of the colony. A tract of 12,350 acres, situated between Paramaribo and Lawa, has been put at its disposal, and the society has obtained the grant for the installation of railways and tramways from Paramaribo to this district. Several large English societies have been formed for the exploitation of the rich gold beds of the colony. Trials have been made of the cultivation of tobacco with favorable results.

Trade of French Indo China.—The Board of Trade Journal, London, March 1, 1900, says:

French Indo China comprises the French dependencies of Cochin China, Tonkin, Anam, and Cambodia, a total area half as large again as that of France. The area of French Cochin China is estimated at 23,000 square miles; Cambodia has an area of 46,000 square miles; Tonkin, 34,740 square miles; and Anam, 81,042 square miles. The trade statistics of Indo China are incomplete, but the following values of imports and exports (exclusive of bullion and specie) for the year 1898 have lately been published in the Bulletin Economique de l'Indo Chine:

Description.	Imports.	Exports.
Cochin China and Cambodia	.....	$21,023,280
From France and French colonies	$4,569,644	.....
From other countries	6,131,790	.....
Anam	.....	598,580
From France and French colonies	92,464	.....
From other countries	642,378	.....
Tonkin	.....	3,197,290
From France and French colonies	3,975,931	.....
From other countries	4,525,845	.....
Total	19,938,052	24,821,150

The imports from "other countries" come chiefly from Hongkong and Singapore. The following tables show the value of imports and exports in 1898 according to principal articles:

Imports in 1898.

Articles.	Value.	Articles.	Value.
Piece goods (cotton, linen, jute, silk, etc.)	$3,684,000	Gold leaf	$638,000
Mineral substances (petroleum, coal, cement, etc.)	1,777,000	Farinaceous substances	501,000
Metal wares	1,732,000	Firearms and ammunition	501,000
Yarns and sewing thread	1,358,000	Earthenware and glassware	496,000
Metals, other than gold	920,000	Medicines	409,000
Opium and vegetable oils	793,000	Soap, candles, etc	370,000
Colonial produce (sugar, coffee, tea, tobacco, etc.)	730,000	Seeds and fruits	350,000
Wines and liquors	642,000	Other articles	5,042,000
		Total	19,943,000

Exports in 1898.

Articles.	Value.	Articles.	Value.
Rice	$19,004,000	Fibers, seeds, and fruits	$477,000
Fish, chiefly salted	1,465,000	All other articles	949,000
Colonial produce	1,333,000	Total	24,820,000
Animal products	1,057,000		
Mineral fuel	535,000		

The export of rice (the staple product of the country) to France has much increased. With regard to other colonial produce exported from Indo China, pepper is the principal article. In 1898, 5,125,695 pounds were exported. Cinnamon, which comes entirely from Anam, is next in importance, with 645,948 pounds. Tea planting is progressing, especially in Tonkin; but as regards coffee, the colonies not only do not export it, but were obliged to import a certain amount (440,920 pounds in 1898) for home consumption. Two hundred and ten thousand tons of coal were exported from Tonkin in 1898, chiefly from the mines of Hongay, though it has been discovered at many other places. The trade in briquettes is making some headway. It may be also interesting to note the value of the trade for the first six months of 1899 as compared with a similar period of 1898, taken from the most recent official statistics:

From and to—	First 6 months, 1898.	First 6 months, 1899.
Imports into Indo China:		
From France and French colonies	$3,961,331	$5,465,080
From other countries	5,250,954	6,010,128
Total	9,212,285	11,475,208
Exports from Indo China:		
To France and French colonies	3,309,220	2,350,520
To other countries	12,672,366	13,032,487
Total	15,981,586	15,383,007

Sugar in Japan.—According to the Nachrichten für Handel und Industrie, Berlin, March 20, 1900, the production, consumption, and import of sugar in Japan have been as follows:

The efforts of the Japanese Government to promote beet-sugar production upon the island of Yezzo have been without results. Of the two manufactories built by Government subsidies, the smaller, in Monbetsu, which was equipped with antiquated French machinery, after giving little results, was abandoned in the beginning of 1896. The larger manufactory, built in 1890, in the state of Sapporo, provided with the newest German machinery, has not been running for some years. The native production of raw sugar in Japan has notably decreased in the last few years—from 7,247,402 pounds in 1893 to 2,703,060 pounds in 1897. According to the official journal, 240,922,645 pounds of sugar were used in all Japan in 1890, while in 1897 the consumption amounted to 325,994,594 pounds. The import of foreign sugar was:

Year.	Quantity.	Value.
	Pounds.	
1890	173,673,167	$6,869,305
1893	214,855,484	7,156,062
1897	331,451,282	9,854,728
1898	581,972,651	13,510,142

The increased imports of 1898 are explained by the fact that importers wished to take advantage of the low rate of import duty which ceased with the 1st of January, 1899.

The import of refined sugar was:

	Pounds.
1890	82,427,831
1893	109,192,835
1897	196,324,595
1898	365,950,601

Up to the year 1895, the import of refined sugar was almost exclusively in the hands of the refineries of Hongkong. In 1897, the import of refined sugar from Hongkong reached the value of $5,317,704; in 1898, $7,177,098. In 1895, German import firms began sending refined beet sugar to the Japanese market, with exceptionally favorable results, as the following figures show:

Year.	Quantity.	Value.
	Pounds.	
1895	10,176,933	$260,153
1896	30,079,600	814,351
1897	68,678,400	1,636,322
1898	105,301,333	2,588,242

In the year 1899, a syndicate of twenty-seven manufacturers was formed in Austria-Hungary to open the markets of Japan to their products, making a competition not to be despised. One factor especially favorable to the Austro-Hungarian sugar is the cheapness of the freight rate made by the Austrian Lloyd Company in the interest of the export trade—$4.87 per ton—while German steamship lines have gradually raised to $6.69 per ton. Only one quality of German sugar (coarse grained and wholly refined) is exported. Austria-Hungary exports two grades—

one wholly refined, equal to the best German granulated, the second half refined, valued at 3 per cent of the fully refined product.

Unrefined beet sugar is imported chiefly from the Philippines, Java, China, and Formosa. By far the greater part of the imported unrefined beet sugar is used in the raw state in Japan. There are only two manufactories for the refining of beet sugar, one established in Osaka with a capital of $750,000, half of which is deposited. The machinery was brought from England and the production capacity is some 200,000 pounds daily. The other company is located in Tokyo, with machinery imported from Germany, and a working capital originally of $300,000. For enlarging and improving this, it is proposed to increase the capital to $1,000,000. The present production is 113,333 pounds daily, but it is expected with the improvements to double this output. The company intends to erect a second refinery in Yokohama. The native refined sugar is not coarse grained, but fine, and costs 25 to 30 cents more than German sugar.

Railway and Mining Concession in Honduras.—The Guatemala Herald, May 25, 1900, has the following:

The right to construct a railroad between the rivers Sulaco and Comagua and the exclusive navigation for twenty-five years of the rivers Uhia, Humaya, Chamelecon, and Sulaco and their tributaries, with the right to dredge said rivers and take the gold which may result from such dredging, has been conceded to Edward H. Burke, representative of a Pennsylvania company. The grantees have the right to all mines located within two years and within 500 meters (545 yards) on each side of the line of their road and 1,000 meters (1,090 yards) on each side of the River Sulaco.

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